AMATEUR RADIO

OCTOBER 1948

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

FOR THE EXPERIMENTER & RADIO ENTHUSIAST

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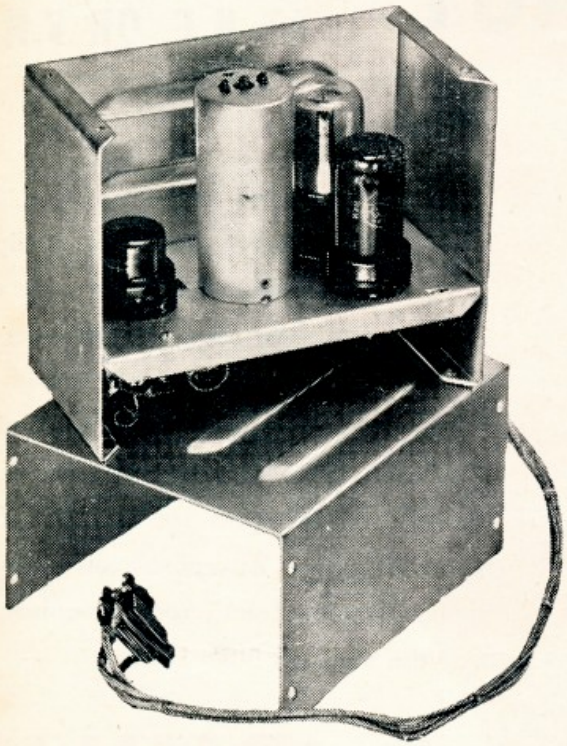

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Vol. 16. No. 10

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20 Queen St., Melbourne, C.1.
Telephone: MU 5154.

PRINTERS:
H. HEARNE & CO. PTY. LTD.,
285 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio." Law Court Chambers, 191 Queen St., Melbourne, C.1., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

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AMATEUR RADIO

Published by The Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITORIAL

★

On Thursday, 2nd September, there passed away suddenly one of the best-known figures in the Amateur Radio world—Kenneth B. Warner, W1EH, victim of a heart attack.

As Managing Secretary of the A.R.R.L. and Editor of QST, K. B. Warner was known and respected by Amateurs the world over. It was his genius for organisation that brought the A.R.R.L. to the forefront of Amateur Radio societies, his capable management which made QST and the Radio Amateur's Handbook the Amateurs' Bibles. His guiding hand will be sorely missed by the A.R.R.L.

K.B.W. was but 53, young as old-timers go, but he had been the keystone of the A.R.R.L. and QST for more than 29 years, surely a life dedicated to the service of the Ham fraternity.

So passes Kenneth Warner, in company with two of our own most loved brothers, Howard Love and "Pop" Medhurst. What tales of brass-pounding and W.A.Cs. there must be in that Other World today, of DX long forgotten, and of Ham brotherhood and kinship.

No doubt the memory of these, our fellows, will be kept alive in Contests and the like, but always the individual Amateur can do his bit in fostering the spirit they so nobly and well helped to bring into being.

By our gentlemanly conduct on the bands, by our clean operating, and by our endeavours to keep the Ham game what they have made it, we will remember them.

A.H.C.

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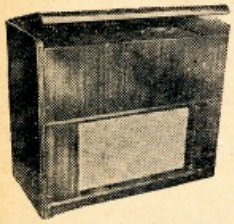

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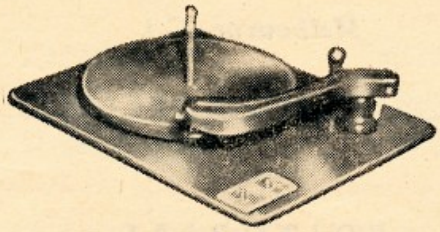

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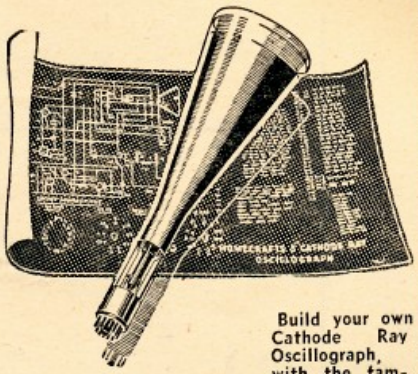

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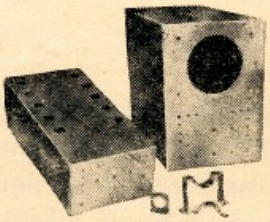

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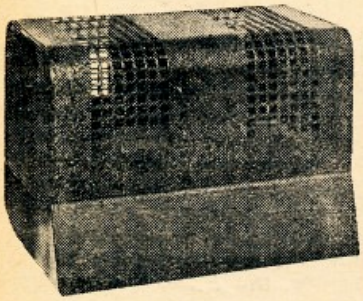

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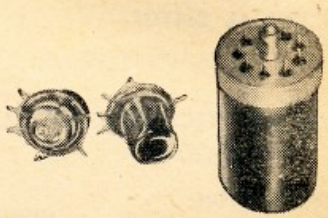

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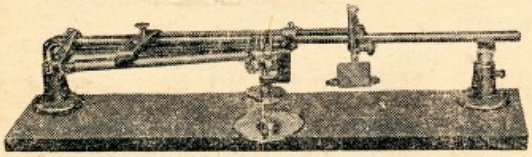

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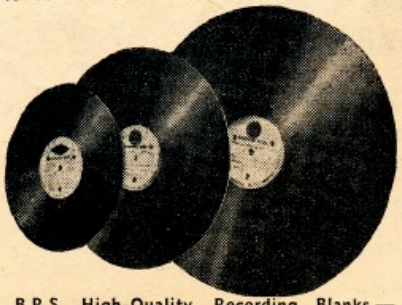

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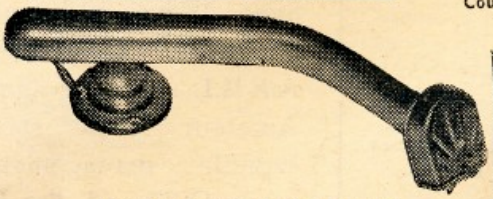

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A Receiver, a Trapezoidal Pattern—So What?

BY R. S. EDGAR*, VK5RS

It is well known that the c.r.o. may be employed for the purpose of delineating that distortion which may obtain in the modulated r.f. stage of an a.m. transmitter.

If the vertical excursion of the spot be proportional to the instantaneous r.f. amplitude, and the horizontal travel be proportional to the instantaneous voltage output of the modulator, the production of a trapezoidal pattern denotes freedom from distortion. At 100% modulation the pattern becomes triangular, while overmodulation is accompanied by the formation of a horizontal line extending outwards from the central vertex. Should harmonic distortion be present in the absence of overmodulation the slant sides of the figure will be curved, while phase distortion only produces elliptical sides when the carrier is sinusoidally modulated.

These facts have apparently given rise to the impression that transmissions may be monitored at a distance by employing a c.r.o. in conjunction with a receiver, the vertical plates of the c.r.o. being actuated by the i.f. output, and the horizontal plates being driven directly, or after amplification, by the product of demodulation. The quasi-trapezoidal patterns thus obtained are supposed to be read in precisely the same way as those discussed above.

Unhappily, such a conception is entirely erroneous.

In virtue of their selectivity requirements, the final i.f. stages of standard communication receivers are normally designed to handle only a limited range of frequencies. For a.m. reception their band-pass characteristics are such that the maximum frequency-difference between components transmitted without extreme attenuation lies in the lower audio range, whence the periods of these components bear a ratio of approximately unity.

The summation of a series of sine waves of different frequencies gives rise to a complex wave whose peak amplitude is a function of time. If the difference of component frequencies be small compared with their absolute values, the upper and lower envelopes of such an a.m. wave must represent the mirror images of each other in the axis of time when the instantaneous amplitude is plotted against time on rectangular Cartesian coordinates. This follows directly from the fact that, over an interval of time somewhat larger than the period of the lowest-frequency component present, each will have undergone a complete cycle. Since their phase relationships change negligibly in this interval the peak positive and negative values of their sum must be equal.

Thus the output from the secondary winding of the final i.f. transformer of any normal receiver comprises a symmetrically-modulated wave, irrespective of the nature of the signal received and/or distortion and spurious frequencies generated in preceding stages (assuming negligible stray coupling).

The upper and lower envelopes of such a wave are, of course, defined by a series of discrete points, but for the present purpose may be taken as continuous and therefore representable by the function—

$$y = \pm f(t)$$

where f (t) contains audio components only.

If the wave be demodulated without distortion the detector output is necessarily of the form—

$$a f(t) + b$$

where a and b are constants, since the product of demodulation must be a reproduction of the modulation envelope.

Should, now, the i.f. and detector outputs be plotted on the vertical and horizontal axis, respectively, of rectangular Cartesian co-ordinates, the figure obtained must be trapezoidal in nature. This may be seen as follows.

The slant sides of the figure are defined by the simultaneous equations—

$$y = \pm f(t)$$

$$x = a f(t) + b$$

whence

$$y = \pm \frac{x - b}{a}$$

for all values of t, i.e. y is a linear function of x.

The slant sides are therefore rectilinear, and the complete boundary an isosceles trapezium.

It is immediately apparent that, should the deflector plates of a c.r.o. be fed from the i.f. output and a linear detector, a trapezoidal pattern invariably obtains.

A limiting case of some theoretical interest is that in which the modulation envelope is a stepped wave. f (t) is no longer single-valued function of time, and the solid trapezoid degenerates into a series of vertical lines which, nevertheless, lie within a trapezoidal boundary.

The shape and size of the c.r.o. image are functions of the depth of modulation of the i.f. output. As the modulation factor increases progressively from zero to unity, the image, at first a vertical line, becomes trapezoidal and then triangular. Overmodulation increases the dimensions of the triangle without change of shape, and intensifies the illumination of the central vertex.

Shoud a trapezoidal pattern not be obtainable from any existing set-up of this type, the source of distortion is to be found in the second detector and any ancillary amplifying stage. Either non-

* Morshead Avenue, Springbank, S.A.

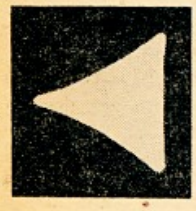

Fig. 1a.

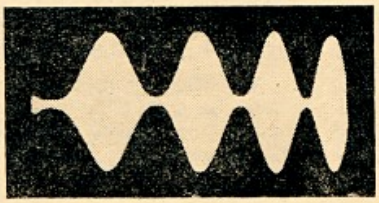

Fig. 1b.

Fig. 1c.

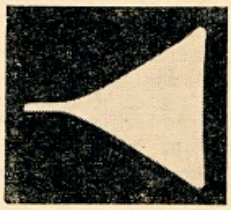

Fig. 2a.

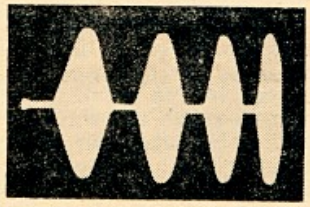

Fig. 2b.

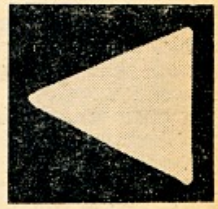

Fig. 2c.

Fig. 3a.

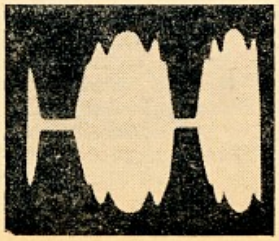

Fig. 3b.

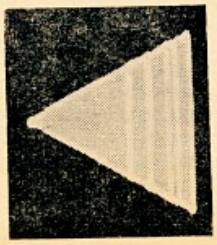

Fig. 3c.

OSCILLOGRAPH PATTERNS

Comparison in transmitted and received trapezoidal patterns for various percentages of modulation.

Figs. 1a, 1b.—Transmitted trapezoidal and envelope patterns respectively, for 100% modulation.

Fig. 1c.—Received trapezoidal for 100% modulation.

Figs. 2a, 2b, 2c.—As for 1a, 1b, 1c, but for overmodulation condition. Note difference in 2a and 2c.

Figs. 3a, 3b, 3c.—Patterns in same order, but for severe overmodulation and distortion.

linear demodulation and amplification or frequency discrimination will produce curvilinear distortion of the image, since the complex audio wave-form will be distorted in transit. Although a finite and equal time delay of all component frequencies passed (phase angle shift proportional to frequency) is permissible in the standard distortionless video amplifier, its effect in the present instance is the production of a double-edged pattern. Thus, not only is freedom from phase distortion a prerequisite of accurate delineation, but also freedom from phase shift.

In those cases where the detector is fed from the penultimate i.f. stage a further source of distortion is present, its effect being manifested as an alteration of the modulation envelope in its passage through the final i.f. stage. A detailed description of i.f. channel distortion is beyond the scope of this article but the following points should be noted.

(1) Harmonic distortion in the final i.f. tube.

If the dynamic mutual characteristic of this tube involve third or higher-order odd powers, some of the harmonics generated will fall within the i.f. band-pass. Spurious sidebands are therefore added to the product of linear amplification with a consequent alteration of the modulation envelope.

Such an effect is very apparent if a sharp cut-off tube be overloaded with excess drive, and may be appreciable in some variable-mu tubes when working, as is often the case in the present application, at high level.

(2) Phase and frequency distortion in the tuned output circuit.

An a.m. wave of constant frequency will be faithfully reproduced by a linear circuit element only if the following requirements be met:—

(a) That carrier and sidebands be equally attenuated;

(b) That the angular phase shifts of each sideband associated with a given audio frequency be equal and opposite with respect to carrier shift and proportional to that audio frequency.

Under these conditions no modulation distortion will be introduced, but a time delay will be experienced by the modulation envelope, except in the particular case where all phase shifts are zero.

Although sideband attenuation in a broadly tuned output circuit may be slight, the immediate requirement of zero phase shift cannot be met. Even in the case of a single tuned circuit with a Q of only 25 and a consequent attenuation of about 3 db at 10 Kc. off resonance (455 Kc. i.f.), a phase shift of approximately 10° is experienced by sidebands spaced 1½ Kc. from the carrier frequency. This i.f. shift is carried over into the modulation envelope, and, in the case of sinusoidal modulation, would be effective in introducing an easily visible elliptical distortion.

When the output circuit is not exactly tuned to the incoming i.f. carrier frequency, asymmetrical sideband cutting and phase shift occur. This is instrumental in producing at the output a wave which may be considered to be both amplitude and phase-modulated—a further type of modulation distortion.

In certain cases an imperfect set-up may yield a quasitrapezoidal pattern on one transmission and not on another. The extent to which this occurs is, in general, dependent on the sideband width transmitted and the band-pass characteristics of the receiver. Time-delay and frequency distortion in the detector, audio amplifier and auxiliary i.f. stage are more marked at the higher modulating frequencies, so that an overmodulated transmission with its large sideband coverage may well be associated with more than average visual distortion.

Nevertheless, there remains the fact that the receiver pattern bears no direct relation to the transmitter pattern, and that any departure from a trapezoidal image at the receiving end is the outcome of faulty design.

The visual determination of modulation percentage at the receiving end also appears to be a questionable practice, since the i.f. modulation envelope rarely bears any resemblance to that associated with the signal received.

This may in part be due to the modulation rise which generally accompanies non-linear tube operation as discussed above, the possibility that the receiver is not exactly tuned to the incoming carrier frequency, or the fact that regeneration or spurious frequencies may occur in the r.f. or i.f. stages. Even when these factors are unappreciable there remain sideband cutting and non-linear phase shift. The effect of these depends largely, of course, on the nature of the modulation envelope transmitted and the overall selectivity of the receiver. For this reason it is difficult to formulate a general rule, but it is clear that some caution should be exercised when checking modulation depth, especially if the incident signal be nearly fully modulated.

For the purpose of illustrating the argument, an artificial transmitter and receiver-c.r.o. combination were set up.

The transmitter comprised a signal generator tuned to approximately 455 Kc. Harmonic distortion was introduced by running the oscillator heater at reduced voltage, and applying heavy external modulation, which in all cases was sinusoidal. A detuned i.f. transformer inserted at the output terminals provided asymmetrical sideband cutting and phase shift. A video amplifier was connected in cascade to provide sufficient voltage to drive the c.r.o. directly.

The receiver consisted solely of an infinite-impedance detector and a single stage voltage amplifier. The latter was not free from appreciable phase shift at the higher audio frequencies, and it was consequently necessary to maintain the fundamental modulation frequency at not more than 200 c.p.s.

No special advantage would have obtained had any stage been run at radio-frequency, since it was possible, with the existing hook-up, to present to the detector a carrier of normal i.f. frequency and any required degree of distortion.

Figs. 1a, 1b, and 1c show respectively the "transmitter" trapezoid, the "transmitted" wave on a quasi-linear time base, and the "receiver" trapezoid for a fully modulated transmission. Some curvilinear distortion is visible at the transmitting end.

Figs. 2a, 2b, and 2c illustrate, in the same order, the effects associated with an overmodulated wave, while, in the remaining figures, the "transmitter" distortion has been increased to an astonishing degree. The departure of the "receiver" pattern from the trapezoidal (or triangular) form is, in all cases, slight, and then only a function of detector and audio-amplifier distortion.

Thanks are extended to Mr. D. J. Barrow for the photography featured.

HINTS FOR FS6 USERS

CRYSTAL CONTROLLING FS6 AND IMPROVING THE MODULATION

The FS6 is a very convenient and useful set, but it has several drawbacks, firstly, the frequency is not very stable, and secondly, its modulation is poor.

On taking the transmitter unit from the case, a small name plate will be seen near C4, remove this plate, and in approximately the same position, drill the aluminium chassis to take two banana plug sockets at crystal holder pin spacing. One of the sockets will need to be insulated from the chassis and it is a help when drilling the holes to loosen the screws holding the oscillator tuning assembly, and partly withdraw the assembly. Don't drill into the final tank coil.

Fit a soldering lug under each socket on the oscillator side of the chassis, connect the insulated socket to the oscillator grid (this is sodering lug No. 9 on the terminal strip) and connect the other lug to the nearest earth point.

On the top of the valve compartment will be found a resistor and condenser mounting strip, remove C11 entirely. This was the grid coupling condenser. Change R7, which is part of the grid network of the modulator tube, from 2,000 ohms to 10,000 ohms. This value seems to give the best all round results. Any increase results in severe overmodulation and distortion as checked both by ear and with the c.r.o.

In tuning up the set in the absence of a plate milliammeter, it will be found that with the tuning condenser set approximately two dial divisions on the high frequency side of the position where the crystal stops oscillating, operation will be very stable, and there will be no trouble getting oscillation started.—VK3PW.

Interstate on 50 Mc.—How It Happens

On a number of occasions recently Interstate working has been possible on 50 Mc. for periods of the order of half an hour. Such conditions are usually due to what is known as "Sporadic E."

The Ionosphere consists of two main reflecting regions, the E region at a height of about 60 miles and the F region 150 to 300 miles up. The F region will very seldom reflect 50 Mc. waves under any conditions. The E region has a fairly regular diurnal variation of critical frequency (i.e. the highest frequency it will reflect straight down again) rising to a maximum of about 4 Mc. at midday; but, in addition, it may show sudden erratic increases in ionisation which will reflect higher frequencies. For a given intensity of ionisation a much higher frequency will be reflected at oblique incidence than at vertical incidence, e.g. if the highest frequency at which a signal will come back vertically is 10 Mc., then communication between stations 1,000 miles apart might be possible on a frequency of the order of 50 Mc. For such communication, however, the reflecting surface would need to be midway between the two stations.

"Sporadic E" ionisation is patchy in space as well as in time, as it is usually a cloud of ionisation moving at a speed of some few miles a minute. Therefore, when communication is established between two points (whether one-way or two-way) it indicates that such a cloud was present somewhere approximately half-way between those points. From an examination of the time when there was a circuit between different points it is thus possible to trace the movement of the cloud.

The Radio Research Board is interested in tracing these movements, and would be glad to have information from Amateurs of any transmissions made or heard on 50 Mc.

As an example of what can be done, take the case of 4th July, 1948.

It was reported that 4BT had worked 2NO from 1400 to 1450 hours on 50 Mc. Radio Research Board was making fixed frequency observations on 50 Mc. on this day and the record showed Sporadic E which became very strong after 1200 but faded out at 1340. It was obvious, therefore, that the patch of Sporadic E was moving North and had reached a point half-way between 4BT and 2NO at about 1430 hours.

At Brisbane there is an ionosphere recorder which runs through the range 1 to 13 Mc. every 10 minutes. This recorder showed a maximum of Sporadic E at 1400 to 1410 but its maximum frequency was only 4.9 Mc., which would not be sufficient to give 50 Mc. transmission. It would appear, therefore, as if the centre of the patch passed to one side of Brisbane.

There is also an ionosphere recorder at Mount Stromlo Observatory, Canberra. This recorder showed Sporadic E reflections above 9 Mc. from 1250 to 1310 and then cutting off quickly. It looks, therefore, as if our cloud passed almost over Canberra in its travels.

There is a recorder at Hobart but it was out of operation on that day.

As a result of these observations we know that this patch of Sporadic E was moving in a northerly direction but we do not know much about its E-W movement or where its centre was.

We understand that VK5s were hearing VK4s and VK2s that day, and if we had some reliable times from S.A. we could make a much more accurate estimate of the direction of movement of the cloud and also get some idea of its size and velocity. If anyone has such information in his log, please let us have it. Also, when you make or hear 50 Mc. contacts note the time, particularly of cutting out, as accurately as possible.

Mr. Carruthers (VK2PF) has been collecting information and passing it on to the Radio Research Board, so please send it to him. Sam Waters (VK2SC) is now with the Radio Research Board and would also be willing to receive reports.

AMPLITUDE MODULATION

BY E. A. CHARLES*, VK5YQ

INTRODUCTION A few notes in simple language[1] on some aspects of a.m., many of which are not to be found in the usual shack "handbook." It is hoped they will be of some use when planning new equipment, or when asked to give someone a report on their modulation over the air.

FACTS AND FIGURES All the short wave broadcasting stations of the B.B.C. have their carriers modulated to a maximum of only 80% (on peaks)[2].

Some of the medium wave broadcast stations of Australia do not transmit any frequencies above 5 Kc.

A change of 1 decibel is said to be just perceptible to the human ear. You have very good hearing if you can detect a change in level of 2 db. The average person can notice a change of 3 db at louder levels, but finds it difficult at weak levels. However, a difference of 3 db can make all the difference between "readable" and "unreadable" on weak signals.

When listening to strong signals on a receiver with a.g.c. (a.v.c.) the "S" meter shows changes in carrier signal level but the a.g.c. limits the audio output. Without a.g.c. there is usually QSB, except on local stations where the ground wave and reflections from miscellaneous objects often produce curious results.

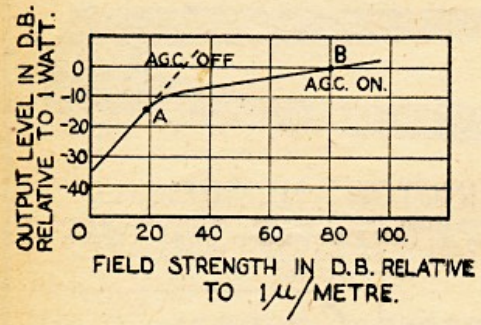

Fig. 1.

An example of one average receiver is a change of only 12 db in audio output for a change of signal input (constant modulation depth) of 60 db. In the diagram (Fig. 1), the slope of the curve AB depends upon the variation of the gain of the controlled tubes with the bias and the amount of delay voltage applied. In this instance the delay voltage is 10 volts and the 30 volts bias is sufficient to change the receiver gain by 48 db.

The 50% increase in r.f. power output at 100% modulation should raise the aerial current by 22% on the unmodulated value; e.g. if the r.f. meter shows 1 amp. line current, it should rise to 1.22 amps. when the transmitter is modulated 100% WITH A STEADY TONE—**IF** the transmitter is capable of 100% linear modulation. With speech it will show less due to the rapidly changing average and peak levels, and due to the damping of the meter.

The percentage of modulation should read 100% for both positive and negative peaks, and there should be no carrier shift. However, it is possible to have different readings for positive and negative peaks, and carrier shift, with LESS than 100% modulation! This can occur when the transmitter is incorrectly tuned or mismatched. Incorrect tuning can cause over-modulation!

MODULATION The Table below shows the useful power at various modulation levels:—

Percentage of Modulation	Percentage Total Power in Carrier	Percentage Total Power in Sidebands
0	100	0
25	97	3
50	89	11
75	78	22
100	66.6	33.3

Approximate depths of modulation for changes of audio input level:—

DB Down	Mod.	DB Down	Mod.
1	89%	7	45%
2	79%	8	40%
3	71%	9	36%
4	63%	10	32%
5	56%	20	10%
6	50%		

The above figures for side-band power hold only for steady tone; for speech the value is about HALF!

Average level of speech is usually around 10 db down on the peak values. Some voices have a change of up to 100% in peak ratio, depending upon just how the speaker voices the sound; i.e. changes in intonation or in pitch. So, using high fidelity audio equipment (no limiting or compression) the average level for voice must be attenuated to below the 30% modulation level, in order to prevent overmodulation on peaks. At one broadcast station I have visited, speech is turned down on the fader so that the PEAKS, as recorded on the monitoring level meter, only reach a level that corresponds to 48% modulation with steady tone input. However, some voices still bring in the over-modulation indicator on certain words!

If you can visit a broadcasting station, you will see the various levels as shown on the line input, and monitoring equipment, and on the percentage modulation meter, and see just what the average level of modulation is for the different types of music and speech. Listening to the daily distortion and noise tests with 1,000 and 400 cycle tone may give some idea of the performance of your receiver and hearing. Some stations test at levels of 48%, 90% and 100% modulation with 400 cycle tone (i.e. 6 db down, 1 db down and 100% modulation).

OVER MODULATION, SPREAD, SPLATTER AND SPLASH

In a Class C r.f. amplifier, plate modulated, where the audio power input is in excess of 50% of the r.f. power input at any instant, or where the Class C stage is incorrectly tuned, or where the negative peaks cause cut-off, the transmitter is over-modulated. The above conditions can cause sharp-fronted waves that generate high order harmonics resulting in the SPREAD of the carrier over quite a few adjacent and distant frequencies with distortion.

It is possible to modulate "200%" on positive peaks and not overmodulate IF you can limit the negative peaks to below 100%; but not normally without introducing distortion. In this case of doubling the positive peaks, four times the audio power would be required (i.e. 200 watts of audio compared to 50 watts, for the 100 watts r.f. input) and the Class C stage would have to be capable of linear modulation with this input! And the peak power output becomes nine times the carrier power!![3]

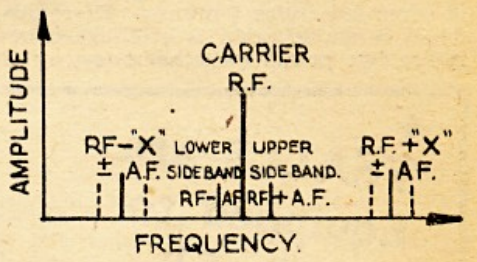

Fig. 2.

It is possible to have high frequency SPLATTER with less than 100% modulation. High harmonics caused by clipping can cause this if not filtered out. Another cause is where the modulator tubes go into supersonic oscillation (usually with the a.f. signal input) causing the carrier to make appearances, on modulation, higher and lower, and often far removed from the carrier's correct frequency and sidebands, as diagrammed "X" in Fig. 2. Transient frequencies, unrecorded on a meter due to inertia can also cause this effect.

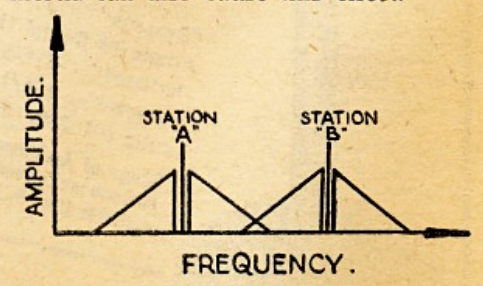

Fig. 3.

* 193 Young Street, Unley, South Aus.

[1] Not that I know any other; in accordance with the views of VK3GE and VK2NO—my early instructors.

[2] List of Broadcasting Stations published by the Bureau of the International Telecommunication Union, 1940.

[3] Grammer, QST, February, 1940.

Fig. 3 illustrates what is known as "sideband SPLASH." This is often heard spasmodically between stations working on nearby frequencies, where the modulating audio frequencies cause the sidebands to overlap. This is often mistaken for overmodulation owing to its unintelligibility.

The "mysterious" b.f.o. method of checking modulation is clearly summarised by VK5AI† as follows:—

"The estimation of percentage modulation (average? or peaks?) via listening on a receiver is an art requiring a high degree of training and perception and a thorough knowledge of the operation of the particular receiver.

"If Ham 'A' reports Ham 'B' as 85% modulation, then Ham 'B' must have a lot of courage to admit his 'technical?' inability to measure Ham 'A's' modulation 'percentage.' To demonstrate that his knowledge is equal to that of Ham 'A,' he guesses Ham 'A' is modulating 90%! They are both guessing.

"A change of 1 db level causes a change of modulation from 80% to 90%, or 90% to 100%, and if you can detect a change of ONE db with any degree of exactitude, Brother, you are pretty good!

"Tune your receiver off the sideband and you will hear some strange sounds, but that does NOT necessarily mean the station is overmodulating. Turn the b.f.o. on! Turn the b.f.o. off! Turn it off and leave it OFF—you are only guessing, we know you are only guessing; you know you are only guessing—why try to fool ourselves? With an ever-changing but very much less than a maximum possible of one sixth of the carrier power in one sideband containing the audio frequencies, you turn the b.f.o. on, you turn the b.f.o. off, you have measured the percentage of modulation of a COMPLEX wave—NO SIR!

"Try adding a b.f.o. to your b.c. receiver and use it when the b.c. station is modulating at a high percentage of modulation—you may learn a lot.

"'You are biting into your carrier OM;' 'Am I biting into my carrier OM?' You TRY to BITE into your carrier OM!"

CHECKING However, the responsibility for not overmodulating rests firstly, finally and solely with the station concerned. What the other fellow says he is hearing is quite likely true, there, but is not necessarily correct. And your signals are less likely to continue to be so on any subsequent transmission, for so many factors can change—and you cannot even argue unless you are monitoring the signal **continuously** yourself.

If a c.r.o. is not readily obtainable, a simple Negative Peak Indicator (set to indicate at 80%) is easy to install. The only thorough check I know is viewing the signal using a good receiver and a Panoramic Adaptor. The normal c.r.o. (on receiver or transmitter) does not show splatter when monitoring a signal. The degree of QRM is left to be guessed on receiving checks unless a Panoramic Adaptor is used—with it you "see" the QRM and its relationship.

CONCLUSION When it is known that the antenna radiating efficiency of one of the high power long wave transmitters in England is only 11%, that only at 100% modulation with a steady tone is a maximum of one sixth of the carrier power in one sideband, and that a single-signal or highly selective receiver only makes use of one side-band, then it is readily understood the revival of interest of Amateurs in single-sideband transmission, apart from the less QRM angle.[4]

And likewise we begin to realise the advantages of f.m. where there is effectively 100% modulation at all times. Here's hoping we get a n.b.f.m. channel allocated in the new 21 Mc. band.

† E. D. Reilly, 24 Marshall Terrace, Brooklyn Park, South Australia.

[4] Editorial, QST, January, 1948.

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THE RESISTANCE OF FOLDED DIPOLES

The theoretical side of Folded Dipoles has been well covered in past issues of "Amateur Radio," but for those of us who shun the Mathematics involved, this simple Abac, reprinted from Oct. 1947 R.S.G.B. Bulletin, should remove the furrows from the brow.

With the aid of a straight edge, the increase in impedance over that of a half wave dipole by the addition of one or two parallel elements, can be readily ascertained.

The method of using the Abac can be best illustrated by several examples.

Let d_1 = diameter of the driven dipole in inches.

d_2 = diameter of the parallel element, or elements in inches.

D = spacing, centre to centre, of two elements in inches.

K_1 = step-up ratio over a half wave dipole for one parallel element.

K_2 = Step-up ratio over a half wave dipole for two parallel elements.

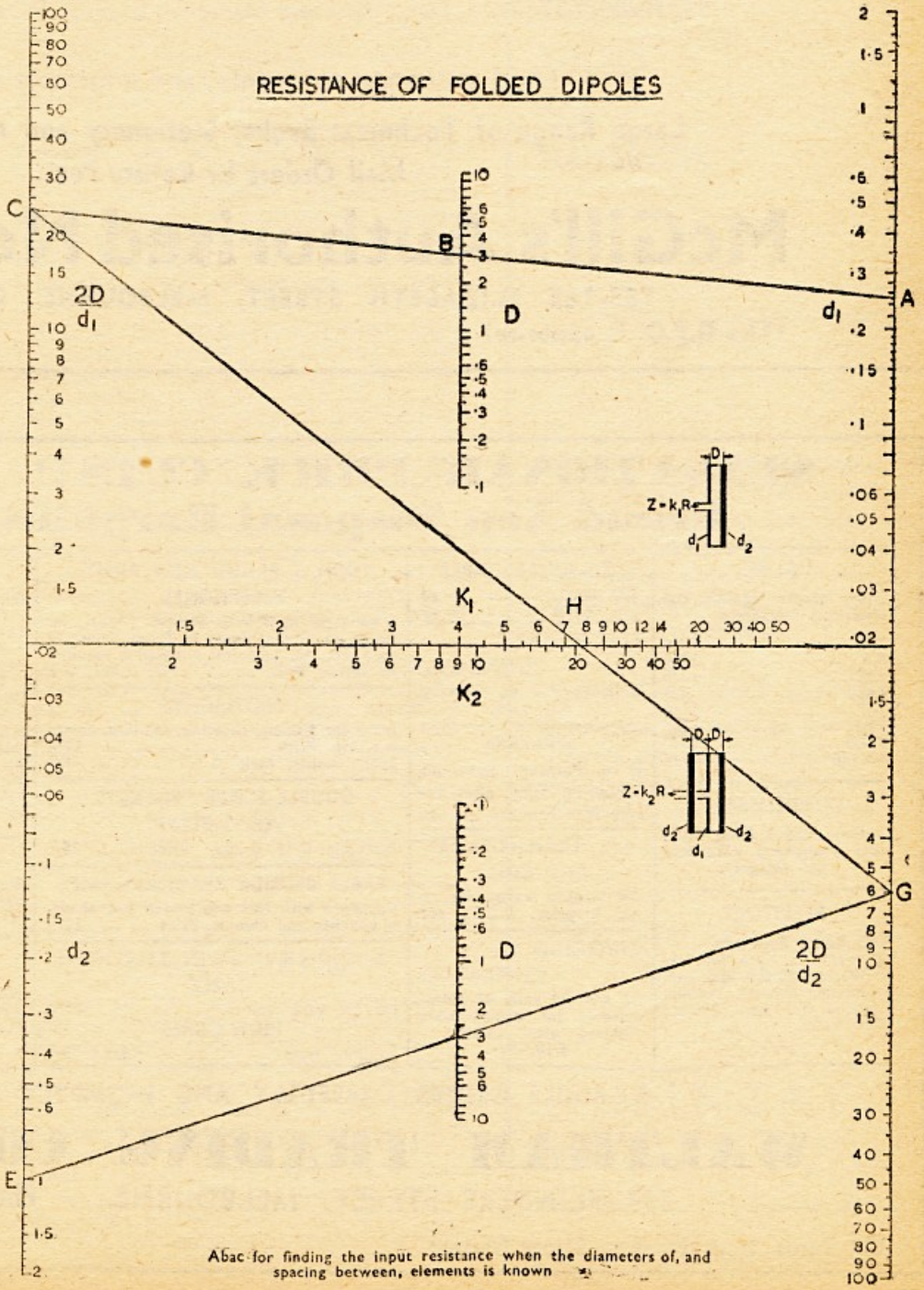
Example 1—

$d_1 = \frac{1}{4}'' = 0.25''$,
$d_2 = 1''$,
$D = 3''$.

The diameter of the element connected to the feeder 0.25" (d_1) is found on the scale on the right hand side of the paper, point "A".

A straight line is drawn across the chart through point "B", which is the spacing (3"), cutting the left hand scale of $2D/d_1$ at point "C". A similar proceedure on the three lower scales, i.e. from "E" at 1", through "F" at 3", to "G" gives $2D/d_2$. The straight edge is now laid between the points "C" and "G", and it cuts the horizontal scale at the point "H", which is 7.7. If the dipole has three elements, the lower

(Continued on Page 11)



Abac for finding the input resistance when the diameters of, and spacing between, elements is known

Resistance of Folded Dipoles

(Continued from Page 9)

horizontal scale is read, giving 20.6. Therefore if we wish to feed a 3 element beam with an impedance of 10 ohms, constructed of ¼" diameter rod for the fed element, and with a parallel cable element 1" diameter, and spaced 3" centre to centre, our co-axial cable should have an impedance of 10 × 7.7 = 77 ohms, or with three elements in the folded dipole 10 × 20.6 = 206 ohms.

Another application of the Abac is where we know the impedance of our feed line and beam, and wish to know the size of the driving element.

Suppose it is required to make a dipole match a cable of 110 ohms, and it has a director and reflector so spaced, that a single dipole would have a resistance of 10 ohms. The ratio required is therefore 11, which is likely to be obtained more easily with a three conductor arrangement. Suppose we choose a 5/16" diam. rod for the fed element and a spacing between elements of 2".

Example 2—

$d_1 = 0.3125"$
$d_2 = ??,$
$D = 2".$

Starting with $d_1 = 0.3125"$ and $D = 2"$, we get $2D/d_1 = 12.8$. Laying a line through the factor 11 on the lower horizontal scale gives $2D/d_2 = 9.1$. Laying a line from here through $D = 2"$, gives a value of $d_2 = 0.44"$, which is almost exactly 7/16". The dipole will therefore consist of a centre element 5/16" in diameter, with a 7/16" diameter rod, spaced at 2" centres from it, on either side.

Practice in the use of the Abac can be obtained by working out the examples given in May 1947 issue of "Amateur Radio," remembering that the designations a_1 and a_2 are radii, and must be converted to diameters for use in the Abac.

In Table 1 following, the generally accepted impedances of two, three and four element close-spaced beams are given. These impedances may vary due to height above ground, and proximity effects, but give an average on which to base calculations.

TABLE 1

Type of Beam	Element Spac.	Imped.
Two Element		
Reflector	0.15λ	24 to 30
Two Element		
Director	0.1λ	14 to 26
Three Element		
Director	0.1λ	
Reflector	0.1λ	5
Three Element		
Director	0.1λ	
Reflector	0.15λ	9
Three Element		
Director	0.2λ	
Reflector	0.2λ	18
Three Element		
Director	0.25λ	
Reflector	0.25λ	30
Four Element		
Director 1		
Director 2	0.2λ	13
Reflector		

EMERGENCY NETWORK ACTIVITIES

When power lines and telephone communications were interrupted at approximately 0300 hours on 6/9/48 by a cyclone which hit the Mornington Peninsula and South West Gippsland areas, the W.I.A. Emergency Network was again operative.

As no communications existed between Red Hill, Mornington, Frankston, and Rye, and Broadcast Station reception was not available due to a.c. power line failure, 3VL and 3US (Red Hill) operating off batteries made contact with 3ABO (Mornington) and 3UG (Rye) at approximately 1000 hours.

The first link with Melbourne was established via 3CA (Williamstown) who advised the Wireless Branch P.M.G. that a circuit existed. Later 3AWO (Oakleigh) was contacted, this resulting in a direct P.M.G. telephone link with Melbourne.

To ensure that contact between the Peninsula area and Melbourne was not lost, two other circuits were arranged, one via 3BI and 3MH (Ballarat) and P.M.G. telephone to Melbourne, and another via 3BU and 3APG (Geelong) and P.M.G. telephone to Melbourne. Hourly schedules were maintained on these circuits.

During the emergency period 3QZ (Tralagon), 3ALS (Yallourn), 3DI (Leongatha), and 3CI (Foster) were in close contact with 3VL and at the request of 3QZ, who wanted information for the State Electricity Commission as to the position of power supplies in the Foster-Leongatha areas, 3VL contacted 3DI and 3CI.

It might be of interest to mention that 3CI was first contacted by a short wave listener at Foster, who heard 3VL calling for a station in that zone. Messages between Mornington and Red Hill were also handled for the S.E.C.

The network concluded activities at 2000 hours. The equipment used at 3VL may be of interest to those planning emergency work this summer as this station was entirely battery operated. Transmitter: two stage unit, 3.5 and 7 Mc. operation, crystal oscillator 6V6G with power amplifier 6V6G, power input to final approx. 4 watts. Modulator: JT30 microphone with 6J7, 6G6 and 79 class B arranged for plate modulation. Receiver: H.R.O. home receiver. Antenna: half wave centre-fed tuned feeders. Power supply: vibrator operated from 6 volt accumulator. H.T. output 250 volts at 50 Ma. Power supply arranged for switching to transmitter or receiver respectively.

Appreciation is extended by the Central Executive of the Emergency Network and the Victorian Division Council for the work covered by the undermentioned stations: 3ABO, 3ALS, 3APG, 3AWO, 3BI, 3BU, 3CA, 3CI, 3DI, 3MH, 3QZ, 3UG, 3US and 3VL.

POWER SUPPLY FOR CLASS C WAVEMETER

Those of you who have obtained a Class C Wavemeter, a very simple and efficient power supply can be constructed from the existing vibrator unit. The vibrator itself is removed and a 6X5GT put in its place. The secondary of the vibrator transformer is wired to the plates of the rectifier, the heater is connected in parallel with the primary, and a filter placed in the h.t. from the cathode. With 6 volts a.c. applied to the primary the required voltage for the Wavemeter is obtained.—VK5MD.

QUESTIONS AND ANSWERS

Q.8.—Has anyone any dope on the Air Ministry receiving unit Type 161, No. 10DB/6106?

Q.9.—A half wave antenna is quoted as having an impedance of 73 ohms at the centre and 3,000 ohms at the end. How does one find the impedance at other points along the antenna?

"HETROFIL"

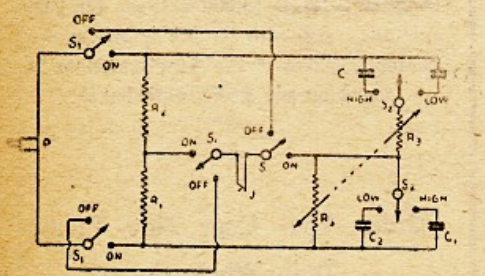
A request to publish the circuit of the "Hetrofil." Here it is, from QST for September, 1939. It is a resistance capacity Wien bridge, inserted between the audio output of a receiver and the phones. The bridge has a sharp rejection notch at a frequency in the audio range determined by the dual variable resistance. This makes it possible to "phase out" a hetrodyne since the notch is sharp and deep and so does not cause too much audio distortion for phone reception.

In the figure, P goes to the audio output from the receiver and phones are plugged in at J. The condition for balance of the bridge is that R2 is twice R1, R3 equals R4 and the two condensers C1 equal. If this is so then the rejected frequency is the reciprocal of 2 pi times R3 C1.

S1 switches the audio either straight to the phones or through the Hetrofil. S2 changes the frequency range, the high range going down to 350 cycles and the low down to 65.

Using commercial tolerance components there is an insertion loss of about 10 db and the attenuation in the notch is about 60 db. And it is a lot cheaper than a crystal filter.

Some suitable ganged potentiometers (50,000 ohms) have been in disposals equipment lately. The values of the condensers C1 for a suitable frequency range can be found from the equation above.



The "Hetrofil" circuit.

C1—0.05 uF.
C2—0.25 uF.
R1—1,000 ohms.
R2—2,000 ohms.
R3, R4—10,000 ohms, variable.
J—Phone Jack.
P—Phone Plug.
S1—4 Pole Double Throw Switch.
S2—2 Pole Double Throw Switch.

CONTEST NEWS

VK-ZL CONTEST

The prizes to hand for the VK-ZL Contest are listed below. At the time of writing, there are insufficient prizes for all sections, but more manufacturers have been approached and should more be made available, the list will be completed and broadcast from the W.I.A. Stations.

The W.I.A. is greatly appreciative of the generosity of the manufacturers who have made these prizes possible, and it is hoped that Hams will take note of these firms and show their co-operation.

Open C.W.—First Prize: Complete complement of valves for 5-inch Oscillograph comprising 1 type 5U4G, 2 6J7Gs, 2 6SN7GTs, 1 6V6GT, 1 AV11, 1 884, 1 5BPI; Second Prize: 2 Transmitting Tubes.

Open Phone.—First Prize: 100 Watt Universal Modulation Transformer, Type TA908; Second Prize: Order to value of £5 for Eddystone Components.

28 Mc. Phone:—Kingsley N.B.F.M. Adaptor.

28 Mc. C.W.:—Type 815 Valve.

14 Mc. Phone:—Modulation Transformer, 50 watts.

14 Mc. C.W.:—Order to value of £5 for Transformers, Chokes, etc.

7 Mc.:—Complete AT5 Transmitter.

Receiving.—First Prize: Ferrotune Foundation Kit for Broadcast Set with Extension Speaker; Second Prize: 0-1 D.C. Mill. Meter with Multimeter scale.

The following are firms who donated the prizes:—Amalgamated Wireless Valve Co., complete complement of valves for 5-inch Oscillograph; Keith Harris & Co., order for £5 of Eddystone parts; Red Line Equipment, order for £5 of Transformers, Chokes, etc.; Trimax Transformers, 100 Watt Modulation Transformer, TA908; Price's Radio, Sydney, Type 815 Valve; Ferguson's Radio, Sydney, 50 Watt Modulation Transformer; Ham Radio Supplies, Richmond, Vic., AT5 Transmitter; Vealls Radio, Melbourne, 0-1 D.C. Meter, with multimeter scale; Philips Electrical, Sydney, 2 Transmitting Tubes; Kingsley Radio Pty. Ltd., Melbourne, N.B.F.M. Adaptor and Ferrotune Foundation Kit with Extension Speaker.

REMEMBRANCE DAY CONTEST

The Remembrance Day Contest was very popular and 90 logs have been received and are now being checked. It is regretted that the rules could not have been published earlier, enabling more publicity, but this will be rectified in the future.

"CQ's" WORLD-WIDE DX CONTEST

RULES

1. Contest Period: 0200 GMT October 30 to 0200 GMT November 1 for phone, and 0200 GMT November 6 to 0200 GMT November 8 for c.w.

2. Bands: The contest activity will be confined to four bands, 3.5, 7, 14 and 27-28 Mc. Amateur Bands, divided into two divisions, c.w. and phone. Each of these two divisions will be divided into two sections, the one-operator and more-than-one-operator section. Thus, there will be: (1) one-operator c.w. section, and (2) more-than-one-operator c.w. section; (3) one-operator phone section, and (4) more-than-one-operator phone section. Stations in each section will compete for awards only with others in the same section. C.W. stations must work c.w. stations, and phone stations must work phone stations only; however, stations in the one-operator section, and stations in the more-than-one-operator section of both c.w. and phone divisions may contact each other. Stations may enter in more than one section, but logs must be submitted for each section.

4. Equipment: There will be no limit to the number of transmitters and receivers allowed, and competitors may use the maximum transmitter power permitted under the terms of their licenses.

5. Serial Numbers: C.W. stations will exchange serial numbers consisting of five numerals, the first three being the RST report, and the last two being their own zone number. Stations in Zones 1 through 9 will prefix their zone number with zero (01, 02, 03, etc.). Phone stations will exchange serial numbers consisting of four numerals. The first two being the readability and strength report, and the last two being their own zone number. Phone stations in zones 1 through 9 will prefix their zone number with a zero (01, 02, 03, etc.).

6. Contacts: Contacts between Amateur Stations on different continents shall count three points; contacts between Amateur Stations on the same continent but not in the same country shall count one point; contacts between stations in the same country, for the purpose of obtaining zone and/or country multipliers, shall be permitted but no points will be allowed for these contacts.

7. Multipliers: Two types of multipliers will be used: (1) a multiplier of 1 for each zone contacted on each band, (2) a multiplier of 1 for each country worked on each band.

8. Scoring: The Contest score will be the sum of all contact points multiplied by the sum of the zone and country multipliers.

9. Awards: Certificates will be awarded to section winners in each division of:

(1) Each U.S. call area.
(2) Each licensing area of Canada and Australia.
(3) All other countries.

Certificates will also be awarded to each operator of each winning station in the more-than-one-operator section.

10. Zones and Continents: The W.A.Z. boundaries as defined in "CQ-DX" and in "CQ" for January, 1947, and the recognised continental boundaries as used for W.A.C. will determine zone and continent boundaries. The W.A.Z. maps are reasonably accurate, but should any question arise as to the positive location of a station, the official definitions will be final. The latest official country list as published in "CQ" for May, 1948, with any revisions announced since then will be used to determine country multipliers. Copies of the country list are also available from the "CQ" Editorial Office upon receipt of a stamped self-addressed envelope.

11. Eligibility: The contest will be open to all Amateurs but "CQ" staff members are not eligible for awards.

12. Disqualifications: Falsification of logs or illegal operation in any manner will be cause for disqualification. The decision of the judges will be final in all cases.

FIFTY AND UP

VK2 ACTIVITIES—SYDNEY AND SUBURBS

The highlight of activities of v.h.f's. for the month of August was the very successful Field Day conducted by Gladesville District Radio Club on 288 Mc. principally and using 144 Mc. as a stand-by channel. Sunday 29th August was the date and locations selected were Mt. Kuringai, Galston Heights, Bringelly and National Park Eugadine District.

Signals averaged R7-8 in every location from all stations participating, and several mobile stations added interest to the proceedings. Stations co-operating, apart from the four 2ADY stations, included 2LZ, 2ABZ, 2NO, 2KI, 2YE, 2ALU, 2PL, 2IY, 2FK and 2PU. Equipment consisted mainly of 6J6 p.p. mod. oscillators, super regen receivers, and 4 to 5 element horizontal Yagi beams. Call signs included at the Club locations were 2AZ, 2AZO, 2AGB, 2AMG, 2AEX, 2HL, 2GR, 2NP and 2XK. Furthest station contacted was 2LZ at Wentworth Falls, a distance of about 40 miles with R8 signals at each end.

Activity on other bands has been at quite a low ebb and no break through reported from any section. Stations in the Newcastle District are requested to forward all observations of unusual happenings on v.h.f's. to 2ADT who has volunteered to aid as co-ordinating officer to forward these observations to 2PF who is Liason Officer to Radio Research Board. It is important to note exact times of signals appearing and fading out, as this is of the utmost interest to the University in connection with its work on Ionospheric Predictions.

A contest is being conducted by the N.S.W. Division on v.h.f's. which include 50, 144 and 288 Mc. and will run over a period of three months commencing 1st October and concluding 31st December. Rules and regulations governing this contest appear in 144 Mc. Digest. Full co-operation from all stations active on v.h.f's. is requested with a view to populating these frequencies and stimulating interest in general on v.h.f. bands.

VK4 JOTTINGS

V.H.F. activity in VK4 is at a low ebb at the present time—paradoxically enough, everyone has the necessary gear to go on, but the 50 and 144 Mc. bands are conspicuously devoid of signals. A movement is afoot however to re-activate 50 Mc. It would seem that the granting of 144 Mc. to Amateurs brought about the demise of v.h.f. activity in VK4. Our numbers, always small, became scattered over two bands and seemed to precipitate the end of regular activity.

(Continued on Page 24)

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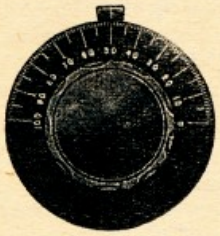

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This useful dial of 2" diameter, is engraved 0-100 degrees, and fitted with a fluted instrument knob. It is available either for direct drive, taking a ¼" spindle, or fitted with a precision 10-1 reduction slow-motion drive. Two finishes are supplied—matt black or matt silver, with contrasting engraving. An index strip is supplied. Fixing is by two 4 B.A. bolts, which are supplied.

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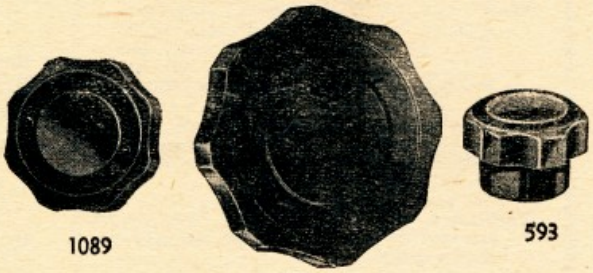

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A high-grade fluted knob of polished black bakelite, 2½" diameter, with brass insert for ¼" spindle. Fitted with two grub screws.

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This fluted knob (shown above), of black bakelite with brass insert, is ¾" in diameter and takes a ¼" spindle. It will be found particularly useful where space is restricted. Two larger sizes are also available.

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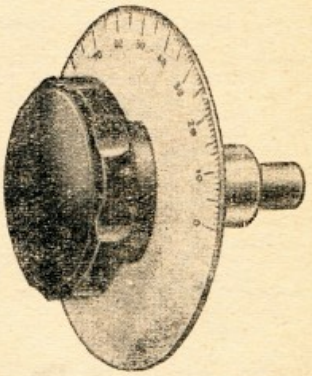

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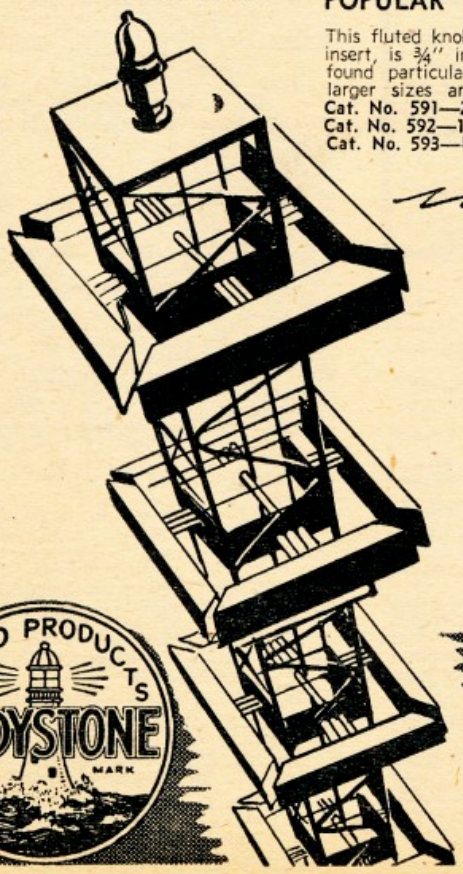

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NEW SOUTH WALES

Secretary.—Wal Nye (VK2XU), Box 1734, G.P.O., Sydney.

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Divisional Sub-Editor: H. F. Treharne, VK2BM, 5 Waimea St., Burwood.

Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; **Newcastle:** E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; **Coalfields and Lakes:** H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; **Western:** G. J. Russell, VK2QA, 116 Bogan St., Nyngan; **South Coast and Tablelands:** R. H. Rayner, VK2DO, 42 Pettit St., Yass; **Southern:** E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury. **Western Suburbs:** A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks. **Eastern Suburbs:** H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte. **North Sydney:** L. D. Cuffe, VK2AM, 779 Military Rd., Mosman. **St. George:** J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton. **South Sydney:** V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

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Secretary.—C. C. Quin, VK3WQ.

Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.1.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: B. R. Mann, VK3BM, Quambatook; **Western:** C. C. Waring, VK3YW, 12 Skene St., Stawell; **South Western:** B. Sectrine, VK3BI, 17a Raglan Street North, Ballarat; **North Eastern:** J. A. Miller, VK3ABG, "Erinvale," Avenel; **Far North-Western Zone:** Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; **Eastern Zone:** J. D. Chilver, VK3DI, 20 Smith St., Leongatha.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7190 Kc. and 2000 hours EST 50.4 Mc. No frequency checks are available from VK2WI.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14342 Kc. and 52.004 Mc. Frequency checks are given two nights weekly, and the hours are announced during the Sunday broadcasts.

VK5WI.—Sundays, 1000 hours SAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat 2 p.m. Sun. 9.30 a.m. W.A.S.T. between 7000 kc. and 7200 kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—G. G. Augustesen, Box 638J, G.P.O Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Night.—Second Monday in each month at the Builders' Exchange, St. George's Terrace, Perth.

Divisional Sub-Editor.—VK6WT, Mr. D. Couch, Mary Street, Watermans Bay, W. Australia.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1328.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—T. Connor, VK7CT, 385 Elizabeth St., Hobart.

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

I.A.R.U. NEWS

The W.I.A. has recorded with the I.A.R.U. affirmative votes on proposals to admit to the Union the following Societies:—

Club de Radio Aficianados de Guatemala,
The Hong Kong Amateur Radio Transmitting Society,
The Phillipine Amateur Radio Association,
The Radio Club Peruano.

Advice has been received from the I.A.R.U. that the Islenzkir Radio Amatorar (I.R.A.), of Iceland, has been admitted to membership.

The A.R.R.L. in its annual report to the I.A.R.U. states that its membership has grown to a total of 67,000, and is expected to level off at about this figure. Licenced Amateurs in the U.S.A. now total 80,000 as against 55,000 at the outbreak of war.

A.R.R.L. has asked other Amateur Societies to keep, as far as possible, their 14 Mc. phone operation principally above 14,300 Kc. The A.R.R.L. Board of Directors decided against extension of their phone sub-band to the high frequency end of the band in order to leave the upper segment clear for non-W phones.

The I.A.R.U. has signed an extension, for one year, of its agreement with United Nations, and the U.N. Amateur Station K2UN is now well established at Lake Success. Details of this station will be available soon and it is expected that we will be able to give some particulars in these pages.

AUSTRALIAN AMATEUR CALL SIGNS

New Issues:

VK2AKL—A. Fairhall, Trevallyn, via Paterson.
2ALN—Rev. L. E. Winton, The Rectory, Wyalong.
2ATK—K. T. Andrew, 32 Aeolus Ave., Ryde.
2EP—K. W. Craig, 22 Stanley St., New Lambton.
2QZ—A. J. E. Robertson, Lachlan Flats, 108 Brook St., Wagga.
VK3AOK—G. H. Varely, c/o. Miss Jance, 11a Redan St., St. Kilda.
3ASL—S. E. Lesser, 155 Powlett St., East Melbourne.
3AWK—W. E. Loveland, River St., Quambatook.
VK5FN—R. J. Poole, 11 Short Ave., Da Costa Park, Glenelg.
5OD—Rev. R. C. Cuthberlet, Port Pirie Central Methodist Mission, Port Pirie, S.A.
3TJ—R. W. Torrington, Thistle St., Pascoe Vale.
3TU—J. H. Irvine, 13 Rathmines Rd., Auburn.
3ZO—J. A. Cinliffe, 21 High View Rd., East Preston.
VK4KJ—W. E. C. Sawyer, O.T.C. Radio Station, Thursday Island.
4NW—H. J. L. Woolnough, Shorncliffe Flats, No. 3, Shorncliffe, Pde., Sandgate.
4PL—W. C. F. Proposch, Fitzroy St., Wananga, Queensland.
4RP—A. R. White, c/o. N. J. Mackinnon, Victoria Point, Brisbane.
4VK—R. A. J. Taylor, Dept. of Civil Aviation, Karumba.
VK5BR—A. L. Butler, David Terrace, Murray Bridge, S.A.
5CN—S. K. Howard, Mobile, Northern Territory.
5IJ—S. L. Griffin, 39 Brougham St., Magill.
5IS—S. Shearer, 68 Cremorne St., Unley.
VK6AX—F. G. Leybourne, S.S. "Asphalion," c/o. Dalgety & Co., Fremantle.
6HM—C. W. B. Holman, "Green Gables," 52 Federal Rd., Boulder.
6JW—J. C. Watson, 12 Bernard St., Claremont.
6SN—A. W. Sowden, 4 Wyndham St., Victoria Park.
VK7CJ—A. E. Finch, 12 Augusta Rd., Newtown, Hobart.

Cancellations:

VK2AYG—R. C. Allsop, 30 Trafalgar Ave., Roseville.
2AL—A. W. Stewart, 3 Marshall St., Petersham.
2EP—A. J. Myers, 22 John St., Leichhardt.
2IH—Dr. A. P. Balthasar, 574 New South Head Rd., Edgecliffe.
2ZO—F. H. Bridgewater, 8 Albion St., Sydney.
VK3AAB—H. V. Eastwood, "S.S. Empire Prospect."
3CM—W. G. Clements, Lloyd St., Dimboola.
3IM—K. E. Pole, 71 Downshire Rd., Elsternwick.
3NZ—C. W. Adams, 30 Erica Ave., Glen Iris.
VK4AM—T. O. Gunderson, S.S. Tambua.
4CY—H. R. Greber, Grand Hotel, Wharf St., Maryborough.
4PL—W. C. F. Proposch, Fitzroy St., Nanango.
VK9ID—I. D. Henderson, Rabaul, T.P.N.G.

SILENT KEYS

K. B. Warner, W1EH, who died on the 2nd September from a heart attack, was aged 53. He was associated with the A.R.R.L. for more than 29 years and was one of the best known figures in the Amateur Radio world.

PK6XA Bert Krygsman, Moratai. Passed away on 11th July, 1948.

Alterations:

VK2ADB—D. G. Caldwell, Ashfield Hotel, Ashfield.
2AHW—H. T. J. Stone, 36 Wellesley St., Summer Hill.
2DJ—D. I. Johnson, 134 Griffiths St., Balgowlah.
2AGW—A. E. Hay, 6 Provincial Rd., Lindfield.
2AIP—R. G. Thorburn, 21 Fernbank St., Marrickville.
2AF—A. F. Williams, 94 Docker St., Wagga.
2CZ—C. J. Patrick, 4 Oak St., Blackwall, via Woy Woy.
2GE—E. B. Mars, Commonwealth Bank, Moree.
2QI—C. Bowler, S.S. "Iron Master," 25 Castle St., Randwick.
VK3AFL—F. C. Lambert, 117 Goold St., Bairnsdale
3AGS—G. E. Sheeran, 8 Winifred St., Essendon.
3AHC—G. Griffiths, 59 Flemington Rd., North Melbourne.
3ALL—Dr. K. M. Kelly, The Vice Chancellor's House, University, Carlton.
3OK—J. T. Pease, 31 Redan St., East St. Kilda.
3PB—P. C. Bennett, c/o. 3SR, Congupna Rd., via Shepparton.
3QL—S. H. Le Breton, Post Office Quarters, Kaniva.
3QV—W. J. M. Bridge, Austral House, Benalla.

SILENT KEY

HOWARD LOVE—VK3KU

With the sudden passing of Howard Kingsley Love on the morning of 29th July, the radio industry in general and the Ham fraternity in particular lost one of its most widely known and greatly respected members.

He had been associated with the radio industry for so long that it is little wonder that he was so well known. He was active in the interests of the industry and at times occupied with distinction prominent executive offices in various trade associations. He had travelled widely and his opinions were sought after and listened to with great interest by other leaders in the industry.

But it was as an Amateur Radio operator that the name of Howard Love became as a household word, and it would be no exaggeration to say that he was, at the time of his untimely passing, one of the best known Hams in Australia, as well as in other parts of the world.

Howard Kingsley Love was born at St. Kilda (Vic.) on the 9th October, 1895, and received his education at Wesley College, Melbourne. He obtained his Electrical Engineering Diploma in May, 1914. At the outbreak of the First World War in 1914, he joined the A.I.F. and went overseas, at the age of 19 years, with the 60th Battalion. During July, 1916, he was appointed Adjutant of the 2nd Anzac Cyclist Battalion which was commanded by Lieut-Colonel C. Hellier-Evans.

When in 1917 the Australian Corps Headquarters called for volunteers to be pilots in the Australian Flying Corps, Howard stepped forward and was one of those chosen for this hazardous duty. He attended Details Camp at Halton Park, Wendover, and then went on the Royal Flying Corps School of Aeronautics in England, eventually graduating as a Scout Pilot. April, 1918, saw our new Pilot as a member of No. 4 Squadron, Australian Flying Corps, at their 'drome near Lavestrie in Northern France and flying "Sopwith Camel" aircraft.

Everybody who had the privilege of knowing Howard Love was impressed with his delightful sense of humour. He was never at a loss to regale his friends with a new story or a new twist to an old one, and so it is not surprising that at a time when it would be considered pardonable for most men to be thinking in more serious vein, Howard saw humour in the situation.

The occasion was some ten days after his appointment to No. 4 Squadron. The unit was flying in formation bombing and "shooting up" road formations behind the enemy lines when Howard's machine was struck by enemy fire. He landed his plane under control but was unable to avoid a shell hole and the craft overturned. Two enormous Germans, armed with rifles and fixed bayonets, arrived smartly on the scene and this effectively scotched any idea t Howard may have had of destroying the "Camel." He usually raised a good laugh when he completed the telling of the story in his own naive way. "They wanted to take me prisoner and seemed intent on carrying out that idea. Rather than disappoint those two burly Fritz's, I marched away between them with their bayonets unpleasantly close to my person." Later the Germans dropped a note over his Squadron Headquarters advising that he was safe and sound. After questioning by German Intelligence, he was transferred as a prisoner-of-war to Carlsruhe and was one of the first batch of P.O.W's. to be released after the Armistice and sailed on the S.S. "Russ," landing at Liefe in Scotland.

It was while in England that Howard met and married Miss M. Pye, returning with her to Australia in the R.M.S. "Kaiser-I-Hind." This ship also brought back the main body of the Australian Flying Corps in May, 1919.

His interest in Amateur Radio was intense—"absorbing" probably would be a better word to describe his passion for the art, and many of the "earlier brigade" will recall his activities on A3BM Malvern in 1919, later OA3BM Malvern and still later (but after a period of inactivity) VK3BM Malvern, Victoria.

Howard Love was the first Federal President of the Wireless Institute of Australia as well as a Foundation Member of that body and was responsible for the organisation of a group of Amateurs in Australia to listen for transmissions from similar groups in U.S.A. who were then transmitting on the "short wave length" of 200 metres. History was made in May, 1923, when "signals" were heard by this group in the first Trans-Pacific Radio Communication.

For many years this enthusiast gave weekly talks on "Wireless" from 3LO, and thus became known to countless people who, in those days, built their own radio receivers. This service was widely appreciated. His lectures to members of classes studying for the A.O.C.P. in the Centreway, Chapel Street, Prahran (Vic.) will doubtless be remembered by many present-day Hams with appreciation of their thoroughness.

It was in 1930 that Howard participated in the first Mackay Aerial Expedition to Central Australia as pilot and radio officer and upon his return was instrumental in organising all Radio Amateurs as a reserve for the R.A.A.F. thus providing an invaluable service during hostilities in the Second World War.

In the following year, 1931, he commenced activities with Firth Bros. Ltd., Melbourne, in the radio receiver manufacturing field, following a period in the timber business in association with his father. It was in this sphere of activity that he was partly responsible for the introduction of the famous "Loftin-White," direct-coupled audio frequency amplifier applied to broadcast receivers—the first commercial "high-fidelity" a.f. system.

During 1932, while Howard was manager of Radiovision Australasia Ltd., activities in television were conducted. Incidentally the address of that company—378 St. Kilda Rd., Melbourne—is practically identical with that of Kingsley Radio Pty. Ltd., which he formed in 1938 and during the following year, after the outbreak of World War 2, commenced the wartime production of Service Communication Equipment.

He applied, on 1st May, 1940, to the R.A.A.F. for active service but his services in that capacity were politely but firmly declined as he was the managing-director of a company engaged in the construction of large quantities of service communication equipment.

There would not be many Amateurs of today who have not heard of, or operated, the famous KCR11 (AR7) communication receiver and Howard Love was responsible for the design and ultimate production of some thousands of these outstanding units for supply to the R.A.F., R.A.A.F., Australian Corps of Signals, R.A.N., United States Navy, R.N.Z.A.F., Free French Forces and the Netherlands East Indies Forces. P.M.G. listening posts also used the AR7 and latterly, through the courtesy of the R.A.A.F., units were used by the Australian Expedition to the Antarctic.

During 1942 Howard Love made a visit to the United States of America on behalf of Munitions Supply to study the latest developments in communication equipment and applicaitons of ferromagnetic iron dust core technique.

It was not until 1947 that Kingsley Radio Pty. Ltd. was organised for the peacetime production of radio components from the wartime production of service equipment and Howard Love, until his death was the company's Managing Director.

Amateurs all over the world will miss the regular "skeds" with VK3KU—they will mourn the loss of one who was at all times "one of Nature's Gentlemen."

FEDERAL QSL BUREAU

RAY JONES (VK3RJ), MANAGER

MD4JG requests that his QTH be published to avoid the large amount of time he has to devote to giving his address to stations worked—MD4JG Major John R. Farr, The King's African Rifles, Mogadishu, Somalia, East Africa. He also desires mention of the fact that he is ex-VQ4CJG, ex-VU2JG and G3CJG. Above information by courtesy of VK2ADT who mentions that VK2YL and himself had worked ZD2GHK on c.w. on 28050 Kc. during afternoon 29th August.

Attention is directed to the world-wide DX Contest sponsored by "CQ" over the week-ends of October 29 and November 5. The first week-end is for phone and the latter for c.w. The Contest provides many novel features not previously included in any other Contest.

ZD4AH Mr. Grev Cawood, Box 287 Sekondi, Gold Coast Colony, was previously VK2ALC and would appreciate any spare copies of "Amateur Radio" that anyone can spare and care to post him or to VK2TG Alec Goldie, 54 Byng Street, Orange, N.S.W., who will undertake to forward them on to ZD4AH.

The Hamad Section of "Amateur Radio" produces results which have pleased Bob Hilder VK2AFT who recently patronised that section requesting a back copy of "A.R." Up to 21st August Bob had already received two offers of the required issue. Bob had the misfortune whilst serving in the A.I.F. to lose all his files of Radio Journals and quite a lot of radio gear which he thought he had left securely locked up to await his return.

VK9BI Arn Wilkey expects to be in Melbourne on holidays in December next and has great hopes of a southern posting at the conclusion of his leave.

At its recent convention the Radio Club Venezuela elected YV5AY as its President, while the L.M.R.E. (Mexico) appointed XE1N to fill a similar office. Both are well known internationally as consistent DX stations.

My reliable and interesting correspondent Eric Trebilcock, Box 12, Wynyard, again comes forward with an interesting budget of things heard on the bands. Although no listeners' event was staged in the recent R.D. Contest, Eric staged an unofficial contest for himself and ended up with 104 stations for 226 points using 3.5, 7 and 14 Mc. Eric has been concentrating his listening of late on 7 Mc. and has so far logged 176 Europeans, the last six being UF6AA, UF6AC, UF6KAB, ZS9D, AP4A, AP5B, UM8KAA, W6ODD/FI8, W8WEA/TRUK. Eric still needs a QSL from Zone 23 to qualify for H.A.Z. and awaits a card from either C8YR or AC4YN to fulfil that goal. Eric enthuses over 7 Mc. as a DX band claiming he can hear Europeans at good strengths every morning no matter what local weather conditions prevail. Eric and others are interested in the doings of the Heard and Macquarie Islands outfits and solicits such news be published in "A.R." regularly.

VQ8AF, who has his QSLs printed on airletter forms, states that VQ8CB (14110 Kc.) is ex-VQ8AB and is on Chagos Archipelago. VQ8AB operated in Mauritius until January, 1947, then as VQ8AB in Chagos until May, 1948, when his call sign was changed to VQ8CB. From the same source comes the information that there have been no licenced FB8 stations post-war and that Prince Vingh-Singh FR8VX, of the Reunion Island, was killed in a plane crash in Africa in 1945 enroute home from France.

Referring to par in these notes in September issue regarding TA3FAS, the following is the only QTH he desires to be used: TA3FAS Lt. John Adel, TUSAFG, American Embassy, Ankara.

Lindy W8BHW ex-W2BHW, whose DX list now totals 201 countries, celebrated the double century by becoming father to an 8LB daughter. Lindy promises some extra special c.w. signals on 28 Mc. during the next DX Contest per medium of a new rotary.

NEW SOUTH WALES

It has been said that Mr. Angus Robertson, Senior Technician of the Department of Civil Aviation, can lecture on any electronic subject at any time, at any place, with the shortest possible notice. He gave an exhibition of his powers by discoursing very pleasantly and learnedly without notes on "Frequency Modulation" to a record W.I.A. attendance of 130 members at Science House, under the chairmanship of our President Maurie Myers on Friday, 27th August. The rapt attention of his audience paid tribute to the interest he aroused with his lucid explanation of a rather difficult subject to most of us and proved him to be one of the very best lecturers we have had for some time. At the conclusion of his exposition he was beseiged with questions for half an hour and gave further proof of his mastery of the subject.

Among the distinguished visitors was the Federal Secretary VK3UM. He was persuaded to mount the rostrum and was asked so many questions about the DX Century Club, interference, contest, etc., that he promised to attend the next meeting for a continuance of the bombardment.

Roaming Sydney recently were 2NX and 2UY from Newcastle and 3WU (ex-G8PO) with Milly and Johnny just arrived from G land and now settled in Victoria.

NORTH SHORE ZONE

About the most noticeable thing on the Amateur bands over the last months has been the almost total absence of many of the die-hard DX hounds, due mainly, I guess, to the poor conditions that have prevailed. Consequently, my spies have learned that re-building has reached an all-time high in the zone. 2EO is among those busy re-building with the Contest well in mind, and plans to erect no less than three beams! 2ARM also QRT busily diving into f.m. receiver construction—present project being an 8-tube job with ratio detector. 2RA has flung DX away too, and is now making klystrons perk madly on 10,000 Mc.—yes, Megacycles! These u.h.f's. will ruin you, Ray! 2OR is another inactive Ham at the moment, and like many of us, is in the hunt for a permanent location. Receiver building keeps him fairly happy just now. 2IT has broken into 14 Mc. with a long wire 10 half-waves long and 20 watts to push into it. 2AKW is also holding down the fort on 14 Mc. DX. 2XI, a newcomer up the line, is very active on 7 Mc. these days.

The Mosman gang seem to have gone overboard for the series-tuned Colpitts or "Clapp" oscillator in a big way. 2GC and 2TL have rushed them into service, and now look on crystals as relics of the early days. 2AII heard on quite a few occasions of late, still with that nice quality phone. 2GQ is being listened to with bated breath by quite a few b.c.l's. who've discovered the shortwave band on their receivers. 2GW has reached the profound conclusion that the modern single signal super has some slight advantages over the trusty t.r.f., due of course, to post-war advances in the technical field. Well, progress is always with us! 2ABL is another new one at Hornsby, heard plugging along on 14 Mc. phone, while 2AIE, also at Hornsby, is busy on 7 Mc. phone. 2BG active on 50 Mc. with a 35 feet high 4-element beam pushing his sigs through the 387 local power leaks, sends in a batch of notes anent v.h.f. doings up his way. Many thanks Bruce, o.b. 2AH now perking on 50 Mc. with 50 watts to an 815, and three beams rotating on the same mast—two 50 Mc. and one 144 Mc. 2YM recently acquired a new call, but is not transmitting on the band yet. He is however listening on 144 Mc. 2XD active on 7 and 14 Mc. with AT5, but may soon move to 144 Mc. 2ABZ considers 50 Mc. too low in frequency, and has buzzed up to 144 Mc. 2ZN is also enthusiastic about 50 Mc., but hasn't been heard on yet! He doesn't like beams because they always point in the wrong direction anyway, even when they're pointing in the right direction!

SOUTH SYDNEY ZONE

No outstanding activities for this month so will commence with a few notes on local activities. 2AB heard working some good DX. 2AC has decided n.b.f.m. not so good. Interested in single sideband operation. 2CP has at last sorted his aerial troubles out by pulling all except one down. 2TI not very active at present due to pressure of business. 2UV active on 144 Mc. and building new rig for 7 and 14 Mc. 2VA works plenty of DX on 14 Mc. with that beam and excellent location. 2VW just finished building new receiver and transmitter. 2WJ busy getting new HRO working. 2ABB active on all bands between trips overseas as aircraft operator. Completing construction of new shack. 2ABC active on 28 and 50 Mc. with beams on both bands. Plenty of DX. 2ABU heard on 14 Mc. working phone DX.

WESTERN SUBURBS

Puzzle of the month! How can two well known local stations work a foreign phone station at the same time, each unbeknown to the other? Maybe that was how they split the atom!! 2AHP is on 14 Mc. c.w. and currently delving into an AR7. 2BF is trying to prove Einstein's theory by designing a quadruple conversion superhet. 2AZO is on most bands but very keen on that 288 Mc. stuff. 2AHU has cleared up his modulation troubles and has a nice signal on 14 Mc. 2QL continues to bash the ether in the Homebush area; plenty DX. 2FA leaves for the U.S.A. shortly. 2AKR gets out well on 28 Mc. 2YP is active and thrilled to bits about his new tower and beam. 2AHB clicked for KG6 and KJ6 on 7 Mc. c.w. Heard testing his new phone was 2QQ on 7 Mc. Others heard on 14 Mc. were 2CL after DX, 2SA and 2SD hunting well, 2OQ working some good stuff on phone, 2TD is on rarely. 2DW is just "mad about" his v.f.o.—it's good! 2ADL comes on actively.

EASTERN SUBURBS ZONE

Activities on the various bands have been rather limited due to spasmodic conditions. Quite a few chaps are re-building. 2FJ is back on the air after six months spell—completely re-built, 100 watts, class B mod., inductively coupled fixed beam, active on 14 Mc. phone. 2AIG re-built including nice v.f.o. Ray says his v.f.o. is simple and stable. 2MB still building, using all new gear. 2WR has changed his QTH, not as good as the old one, still able to work DX. 2KF on 14 Mc. phone, going to try 28 Mc., and contemplates a beam. 2CE active on 14 and 28 Mc., just finished double conversion band-switching super. 2AFZ not very active, busy with noise limiter. 2SA heard using phone with nice quality. 2QY active on QRP 7 Mc. phone. 2ALW active on 7 and 14 Mc., also has new double conversion receiver. 2AJG confirmed c.w. man now on 7 and 14 Mc. phone, Laurie says quite a change. 2CF again active on 7 and 14 Mc.

We have a new station in the Eastern Suburbs, he is known as Hoppy Harry (a Pirate). He acts as a self-appointed policeman breaking in on a QSO to pass an opinion or make a wise crack. We will soon catch up with Harry if this practice continues.

On checking in the call book I find there are over 60 stations licenced in this zone, of these only about half are active, there are however still too many to contact personally, so chaps keep a look-out for 2AX on 7 and 14 Mc. and pass along the dope on your doings—failing to contact on the air, ring FW 7053.

COALFIELDS AND LAKES

2AEZ after re-building is getting his share of DX and plenty heard calling 2AIO. 2KR the only one heard from Woy Woy. 2OC and 2RU faithful to the v.h.f's. 2TY using 28 Mc. beam on 144 Mc. worked 2ADX Maitland and 2ADT Cessnock and has been heard in Singleton by 2JZ. 2JZ ready to go, a real old-timer, has beams on 28 Mc. and possibly 14 Mc. 2ALR a new arrival in Maitland hopes to be on soon, thanks for note. 2KF active on the week-ends, away week-days, works 14, 28 and 50 Mc. phone. 2KZ still needing two States for W.A.S. on 28 Mc., all with a single 807 and two tuber; may try new antenna on 50 Mc. 2AMU heard on 28 Mc. 2PZ not very active apart from transceiver on 144 Mc. Nil from 2MK. 2ADT been on holidays, little new DX, 100 countries verified now, active on 144 Mc. and still hearing the Blue Mountain gang on that band. 2YL leading quiet life, new receiver, a little tennis and spasms of DX.

NEWCASTLE

2AFS would like the guy using his call sign to please keep within the band. 2PQ has a new shack and is busy installing all the gear and preparing his rotary for 28 Mc. 2AHA has added the third element to his rotary on 28 Mc. and could be seen doing acrobatics up the top. 2TE is building a new final using lots of gear, so watch the eardrums. 2FP about to build an R9-er for the DX season. 2AGY is reported to have a beam at his QTH, what about letting the gang hear it? No news from Maitland what about it?

WESTERN

2ACU still working DX on 7 Mc. c.w. 2YN has has new microphone, OK on 7 and 14 Mc. DX phone. 2QA with a new v.f.o. and 75 ohm feed line. 2AMR active on many bands. 2XE moving to Cooabarran (2QA's secretary's spelling). 2OK migrated to Melbourne for an indefinite period. 2EI working a lot. 2ALN new Ham at Wyalong with 6V6 c.o. and 807 final on 7 Mc. c.w. 2NK in lots of trouble with his modulator. 2JW has his QRO rig on. 2ALX changed to cathode modulation less trouble. 2NS' phone OK again now but still prefers c.w. 2IE has built another v.f.o.—series Colpitts. 2RN new Ham at Bathurst still on c.w. 2XP exclusively on 14 Mc. phone and gets nice DX with a double extended zepp. 2FH with the biggest array of all time—four elements wide spaced on 14 Mc., looks like the Harbour Bridge going around. 2EF still QRL schools. 2HZ built for 288 Mc. but can't hear anything. 2LZ the reverse, hears everything on 288 Mc. 2LY has a new super modulation transformer, some good phone soon? 2ACP like the Arab is now in Queensland and no a.c.

SOUTH COAST AND TABLELANDS

We extend to 2PA our congrats for a dual honor—proud father and highest N.S.W. scorer in the R.D. Contest. Active in this zone on R.D. were 2OW, 2PN, and the scribe. 2OW 45 watts to an 807 final excited by a No. 11—six VK6 contacts in one hour on 7 Mc. c.w. a fair effort, rewound a tranny to get about 100 watts. Have noticed in the call book that a Rev. gentleman in Temora has a call and 2OW looks like worrying him to get on the v.h.f's. 2AKE too busy except for a few contacts on 3.5 and 7 Mc., has said farewell to the old type 30, Type A Mark 3 doing nicely—soon to shift to a new home and some a.c. 2AIK West Wyalong complete with 3 stage v.f.o. all

6V6s, nice quality from a deaf aid headphone crystal unit.

Called 2TA by land line only to interrupt a 50 Mc. contact between 2PN Tumut and 2TA at Young. 2PN heard during contest and lucky fellow was QSO 9GW. Was visited by Harry Hutton, of R.M.C. Duntroon, had a long yarn over eleven or eight or something. Harry operates 2RM but keeps up his old 2HV call for sentimental reasons. From the 'Gong 2UK and 2WP heard, 2AIP left the country for the smoke. 2WP's big sticks should be up soon. 2ALS parted with the QRO equipment. Happy with a strong signal from his QRP rig. 2DO after much scratching of the head and half smoked cigarettes survived the R.D. Contest, used a separate transmitter on 3.5, 7 and 14 Mc., really enjoyed the test. Best signals heard came from 4CG, 7AB, 2ZH, 2RA, 2EO, 2PA, 2AHA, 2JX. 2AHA beautifully operated c.w. a delight to copy, 3UM and 4NO also had nice signals.

SOUTHERN ZONE

No worries about local QRM in Albury as the gang are not active. With the approach of warmer weather there should be a move from firesides to shacks. 2EU has a new six foot rack to take the entire rig. 2VK sailed on the "Stratheden" for London, the YL soon to become an XYL. 2OJ moderately active on 14, 7 and 3.5 Mc., found it harder to get the final on 3.5 than 28 Mc. 2ANQ, 2QD and 2QE also 2JA all re-building, how about some news from Wagga?

NORTH COAST AND TABLELANDS

2AJB very active from Muswellbrook, although has had the call for years it is the first time enough space has been available for the rig; hopes to get on 3.5 Mc. before the summer. Seems to be great inactivity on the rag-chewing bands of the Lismore, Grafton and Murwillumbah gang, possibly due to re-organisation after the flood. DX has been heard calling 2NY on 28 Mc. however. 2DK active on 7 Mc. with only a few watts. 2JK and 2ARJ running 50 Mc. tests after a lot of delays in getting started. 2JK lost antenna in a high wind and the harmonics used on axe on feeders making re-erection just a little more difficult. 2FN home for the September vacation, swept cobwebs from rig and hit 7 Mc., proud owner of a new 640 receiver. Graham hit commercial radio with a talk on Flying Club activity. 2NN active on 7 Mc. with QRP. 2ASF has a new rig under way and is going QRO 2 to 10 watts! Jerry 2ZS (pre-war 2OF) running a few watts to an 807 Hartley. 2GH may be moving shortly to Rockhampton, he is with Aeradio. 2KN has a nice signal on 7 Mc. 2SH "Sound Effects Man" a consistent 7 Mc. man, getting gear ready for 28 Mc. plus a rotary. 2PA recuperating from his R.D. Contest efforts. 2WC (ex-3WC) working 14 Mc. only, hopes to be into a new home shortly and will set up all the gear. 2UN works 7 Mc. occasionally to keep in touch with the locals.

DX NOTES BY VK2ACX

Conditions on 14 Mc. for the month of August have been fairly poor, with the result that there is not much to report in the way of DX. The magnetic disturbance during the week-end 7-8th had a marked effect on conditions and I am inclined to think present conditions are the aftermath, fade-outs being numerous.

2HZ had the good fortune to pull off two really good ones in PJ0X Netherlands West Indies approx. 14100 Kc. T8 around 2130 hours and ZD2GHK 14025 Kc. T9 around 1730 hrs. 2VN worked the PJ0X the night prior to 2HZ. Although 2VN does not get on very much these days, he seems to be there when "Its" coming thru. Another for Morrie was TU2LO in Turkey 14000 Kc. 1830 hrs.

2DI has received his W.A.Z. certificate—the first in VK I believe—congratulations Gordon. I suppose your DXing days are over now—are they? He has 170 countries and was heard chasing ZD2RGY couple of week-ends ago. The ZD was an S7 here calling CQ and although called by a few of us (including the W gang) he was not heard again. Probably the dogpile frightened him!!

2EO has been heard on from time to time working the good ones. Not so active these days, he is probably resting for the VK-ZL Contest. How's your country list now Dave? I believe you are around 146 countries. 2QL is still having his share of QRN from the electric trains and overhead h.t., although he still manages a new one now and again. His latest being two really good ones—FE8AB and ZP3BL for 137. He is also W.A.Z.—his last victim on that issue was AC4YN.

QSL cards for FR3CE and FA3XP are being returned via the D.L.O. which doesn't look too good especially for those who have not worked either FO8AA or RV2/FO8. Has anyone any news of MP4BAB 14050 Kc. around 2300 hrs.? 2DI tells me that the R.S.G.B. mention an MP2 prefix for a station located at Dukan in Qatar, which is somewhere around the Persian Gulf.

For those who would like some information on the Italian boys on both Grieste and Sardinia, I have the following: Trieste—I1RC, I1NZ (c.w.), I1BCB (c.w.), and MF2AA (usually on the high end of 14 Mc. phone); on Sardinia—IS1EH (phone), IS1AHK (c.w. and phone), and I1AEW (c.w.).

The pick of the DX during the month of August appears to be: AC4YN 14120-14130 Kc. around 2200 hrs., CT3AA and CT3AB v.f.o. around 2000 hrs. PZ1FM 2000 hrs., ZP3AW 14100 Kc. 2130 hrs., and ZP3BL 14050 Kc. approx. 1700 hrs. W8WEA/TRUK has been on a couple of nights but is not as active as he was a few months ago. HP1BR (ex-HP4Q when he was under cover) was there one Sunday helping a few out with a new one, including myself.

QSL cards from VQ8AB (now VK8CB) on Chagos have arrived for contacts dating back to early 1947. In a QSO with VQ8CB a week ago he mentioned that he does QSL 100 per cent., but as he can only clear his cards TWICE in every year (the boat only calls twice a year) he asks that you have patience—they will turn up in due course. Can anyone tell me how to extract a card out of the OX gang or UA1KEC and UA1KED in Zone 40? A card from Zone 40 is wanted here for the W.A.Z. certificate.

That's the issue for this month fellows. Please let me have your zone and country scores—also any DX news you have. Make sure it reaches me by the 5th of the month, so that I can catch the following month's issue. QTH 12 Schackel Ave., Kingsgrove, N.S.W.

VICTORIA

Congratulations to Doug Norman VK3UC who has won an Architectural Scholarship which enables him to study in England. He expects to leave for England in December and is most anxious to contact any G Hams in the London area. If you can help him his address is 10 Brighton Avenue, Preston, Victoria.

STANDARD FREQUENCY TRANSMISSIONS

The Council of the Victorian Division of the W.I.A. have decided that Standard Frequency Transmissions from VK3WI will take place every three months. The next transmission will be on the 26th October on the 7 Mc. band. Spot frequencies will be given every 10 Kc. from 7000 to 7200 Kc.

NORTH WESTERN ZONE CONVENTION

The Convention of the North Western Zone was unique in many respects. For a start it was held at a private home out in the country and not in a town. This was the reason for all the QRM about roads on 3.5 Mc. for the preceding week or so. There seemed to be many roads leading to 3BM and all the shortest and best according to their advocates. However there was one thing that all agreed on, that was that when within a few miles of 3BM his sticks would be clearly visable and that there would be no mistaking his farm. I am sure too that it was unique for the catering. All of which was done by the wives of local Hams. None of us had eaten so many consecutive meals of turkey before and as for trifles and cakes, they seemed to be unending despite the greatest attacks made on them. It is usual for Hams to exercise their jaws at Conventions but not in the manner that they were used at 3BM's.

On Saturday morning cars from as far away as Seymour, Warrnambool and Melbourne were heading for Quambatook. 3HG, who had 3JA with him, collected 3II (your scribe) and we made Stawell for lunch seeing 3YW there just as he was taking off his white coat and shutting up shop. He directed us to the eats and put us on the right road from Stawell.

Following Bruce's instructions re roads we crossed the railway, round the dam and admired the sugar gums which are all that are left of the school that Bruce first went to, and then we saw the sticks! What Radio Australia is to a Commercial Station, VK3BM is to the usual Ham Station, so far as aerials go. Any of the sticks holding up the ends of the Vee beams would do me for a mast and he has eleven of them while the central mast with the eleven beams converging on it looks like a giant's umbrella that has lost its cover. While the leads from the beams to the shack are like the telephone wires on a main road, and seem to be erected in a similar manner. But I am getting ahead of myself.

We ran into 3BM's yard and were hailed by those there before us and by Mr. Trebilcock 3TL who stapled our call signs onto our coats so that there was no need for introductions. We had just taken a look into the shack when there was a CQ call down the road and 3WQ, 3AG, 3PA and 3RU arrived from Melbourne. At least I think they all came with Charlie but as he was in a utility with a lot of Disposal gear I may have been wrong. Bruce grabbed 3AG to look at a receiver and 3RU seeking game got a rifle. He was warned that the turkeys were domestic so went seeking lesser game elsewhere. Soon after this the Eastern Zone boys arrived. 3ABG had driven to 3TS and had then transferred the 50 Mc. gear to his car. They had then collected 3EP in Bendigo and arrived in time to hear Bruce work several Europeans getting S8 reports on phone. The next to arrive were 3ACE and the Old Pirate from Birchip. However when Treb earmarked him 3CH I was assured that he was genuine.

Bruce then asked us to collect our gear and allotted us to our quarters by the effective way of opening the door and leaving it to us to settle who slept where. Any riot or ill feeling amongst con-

testants for the best position was quelled by the dinner bell, and it was a case of Ham to Ham and Turkey. This was the first of four such sessions and I think the longest, but, after a time the inner man could not take it. Bruce then gave a talk on Vee beams which was most interesting. He remarked that when they were as long as his were 860 ft. they were very easy to tune over the band. They were not bi-directional as shorter beams are. However he had also noted that with his array they were not as directional in reception as he had found when he began with fewer. He thought that this was due to the leads acting as a receiving aerial. He stressed that it was when conditions were bad that Vee beams came into their own and that he would be able to get through when no other station could.

The zone then held their formal business session when it was apparent that there were only thirteen members with some associates. A truly remarkable meeting for such a small band to set in motion.

3TL then announced the conditions of what he called a "Bruce" Auction of some radio gear donated by members of the Zone for the "Food for Britain" Appeal. The terms of sale were very novel and construed so that they generally favoured the seller. They were couched in legal terms with as many whereas's and aforesaid's as there are 73s in a phone final. The main idea being to incite bidders to make the other fellow pay for it. This succeeded to the tune of about £30 for two sales.

There was in all 27 Hams present, and including the XYLs, YLs and Junior Ops, a total of 42 was counted, 20 of whom slept overnight.

From discussions during the zone meeting, the following points were noted:—(1) Congratulations to 3ML on his re-election as President and expression of regret that he was unable to be present at the Convention. (2) It was suggested that the Standard Frequency Transmissions be made only quarterly, and to receive publicity beforehand. (3) Favourable comments on the improvement in the magazine. (4) Concern was expressed at the loss of the emergency frequencies. (5) The speech quality of of VK3WI received considerable criticism. (6) The Disposals Committee were congratulated on their efforts. (7) It was suggested that more effective use could be made of the instrument and book libraries. (8) There was a long and warm discussion on the QSL distribution, from which the general opinion was that cards should be forwarded to members as had been done in the past; although it was considered that bundles of cards for distribution could be sent to one person in a centre to distribute without further re-posting.

The election of zone officers resulted: President 3TL (also key station), Secretary and Treasurer 3OA, Communications Officer and Notes Correspondent and Disposals Officer 3BM.

Sunday morning was mostly taken up in general rag-chewing, meeting voices in person and watching Treb earmark new comers. Amongst the first of whom were 3YW and 3TA in a posh new car. Then as many as could gathered into the shack to hear the W.I.A. broadcast and/or to eat oranges that were placed in a case near the door. In the afternoon 3ABG gave a talk on 50 Mc.

Bruce led the Hams, in cars, to have a look round the farm. He showed us the place where his father camped when he first took up land in the Mallee and where they have left the original trees growing. He also showed us the private channel over 9 miles long down which he pumps water to irrigate fallow. This is a practice very little known. Also a crop of wheat growing on land that he had watered last year, sometimes getting bogged in his car while attending the pump.

The success of the Convention was no doubt due to Station 3BM which was of interest to us all. But it was the work done by Mrs. Trebilcock, Mrs. Adams, Mrs. Mann and her mother that made us all so sorry to leave and to hope that it will not be long to the next time.

3TL's 80 footer blew down in the gale. Treb intends to re-erect it after giving it a coat of paint. 3JG, although active on 7 and 14 Mc. cannot be persuaded to join the hook-up on 3.5 Mc. 3CD will have the a.c. power lines very soon and then expects to get on the air. 3ZK had an f.b. rig pre-war, so judging by reports of the beaut outfit that he's nearly completed, he should go to town when he starts up. 3CE is branching out with an AR8, new modulator and new mike. 3OA has put his gear on a dinner-waggon and moved in by the fireside. Ian is also building 50 Mc. gear and a 4 element rotary beam.

3CH is heard more often now on 3.5 and 7 Mc. Uses a Command Transmitter, v.f.o. and final, and is doing a lot of looking at and thinking about an SCR522. 3ACE is active rag-chewing and never out of something to say. 3HR is off the air owing to burnt out alternator and is so QRL in his job that he hasn't got round to rewinding it yet. 3LU

will unfortunately be leaving Quambatook soon to destination unknown. It was thought for a while that he would be permanent here and he was making plans for a de luxe outfit. Congrats to 3AWK on achieving the ticket, and also for the f.b. signal you have got out already. He will soon be moving into a permanent home and can then put up a decent antenna and set up the TA12D and ARS to advantage. Associate Jim Troy is very keen and will be a QRP merchant when he eventually gets on. Will have to start from the ground up with a 12 volt generator run off the milking engine. Albert (better known as "Bud" or "Butter") Page has a nice lot of gear but no morse speed as yet. 3BM has purchased four stiff copper tubes which will some day be a 50 Mc. beam atop the 70 foot stick. He dreams and talks of folded dipoles, grounded grid triodes and 807 quadruplers so something should come of it, all.

CENTRAL WESTERN ZONE CONVENTION

Thirty attended the Convention held at Horsham on Sunday, 12th September. The annual election of office-bearers of the zone resulted as follows: President 3GN, Vice-Presidents 3ATR and 3AKW, Secretary-Treasurer and Notes Secretary 3YW, Committee 3ARM, 3FI and 3XU. A Dutch auction in aid of the "Food for Britain" Fund resulted in the sum of £16/5/- being raised.

A suggestion was made that the Standard Frequency Transmissions from VK3WI be run every three months on 7 Mc. Another suggestion was that to get more stations into the zone hook-up the time was to be changed to 2 p.m. on the second Sunday of each month on 7120 Kc.

3TA donated six 807s to be awarded at the next Annual Convention for the best operating procedure and signal in the Central Western Zone.

The next Convention is to be held at Warracknabeal about the end of March, 1949.

EASTERN ZONE

Arrangements are proceeding for the annual Eastern Zone Convention to be held at Leongatha on the 27th and 28th of November, so those who are interested keep this week-end free. Further news of the Convention will be included in the Zone notes next month.

The monthly meeting of the sub-branch was held in VK3ASS' clubroom at Balcombe on Monday, 6th September; the attendance being thirty. Vacancies for the position of Secretary and Treasurer were filled by 3US and 3UG respectively.

A check revealed that there are 15 licenced Amateurs in the sub-branch. New members enrolled at the meeting totalled 14. Interested visitors to the meeting were J4BDL, J4EPA and J4KLT, all A.R.A. officers serving in Japan. Major Lake J4BDL gave an interesting picture of Amateur operating conditions in Japan. Disposal equipment was then raffled, as a result of which the branch was placed on a firm financial basis. A very successful meeting was brought to a conclusion by a review of valves suitable for ultra high frequency operation given by the President 3RR.

3AHK has been absent from the last few hook-ups; what is the hold up Ossie, is a super rig going to hit the ether? An emergency network was formed on Monday 5th by 3VL, 3QZ, 3ABO, 3CI and 3DI. Through the strong winds both a.c. and telephone lines where put out of action. 3VL, ably assisted by 3US, started the emergency network going and although handicapped by no a.c. power, put an emergency rig on the air operated from a 6 volt accumulator and stood-by all day. 3PR very QRL on the farm but is getting ready to go QRO when the a.c. comes on. 3LV has got modulator going well now and is experimenting on different types of microphones. 3WE very busy these days, any way Bill with a bit of good luck, you may have that thermometer above freezing point again in a few weeks time. 3RH has been on the bands frequently, but not yet in the hook-up. 3BB has his phone going very nicely now and puts out good sigs on 3.5 and 7 Mc. 3SS is on the air when not busy on b.c.l. sets; they keep you busy don't they Keith. 3AKM is busy with 50 Mc. work. Keep it up Mac. 3AEP has his TA12D performing extra now.

NORTH EASTERN ZONE

VK3DW advises that the N.E. Zone hook-up as shown in the magazine notes has been altered. It is now the first Sunday in the month at 0900 hours on 7 Mc. and the third Sunday at 2100 hours on 3.5 Mc.

Only notes this month are from the Wangaratta snooper. He reports that a Ham Afternoon was held at 3YV and 3JK shacks, with visitors 2OJ, 3DW and 3KR. Centre of interest was a TA12D. Afternoon tea (?) was provided by 3YV. Wang. roads knocked the silencer off 3KR's car so he returned to 3YV, where they had trouble getting the car high enough to allow Ken's stomach to accompany him under the car. It is believed that in the end Ken dug a hole in the lawn and fixed the silencer. 3DW reported seeing snakes, owls, lizards, etc., on the way home.

3TS, 3ABG and 3EP enjoyed the Northern gang's hospitality at Quambatook. Thanks to 3BM, 3TL, 3OA and XYLs, your great show sets an example for others to follow.

Following are some unconfirmed reports from unreliable sources: 3UI has good results on 50 Mc. 3APF working DX on 28 Mc. phone. 3TS now on 28 Mc. also. 3GD must be on DX bands too. 3ACW still on sick list after double operation. Chas took A.R.R.L. handbook into hospital. 3YV snowed under with work. 3JK heard on 3.5 Mc. with Type 3 Mark 2. 3WZ was heard from 3WQ. 3KR has new antenna to tree in the street. 3AT's phone is much better. 3XZ using Type A Mark 3. 3CN going to take a lesson on earbashing from 3DW. 3FD still a s.w.l. 3SN putting up power bill on 7 Mc. 3QV new QRM in Benalla, welcome o.m. 3ABG has new QRP rig on 3.5, 7 and 14 Mc. Now the outstanding news of the month—3DW has removed three switches! Now only three-switch change over. Doug still has three knot tuning on receiver though! 3HZ we are waiting for your sig on 50 Mc. Hope it is better than 3SR. 3HP must have blown up. 3BP football before radio?

Out of 30 zone members, only one sent dope. We know that most of your activities are shady and understand, but some must be printable, so what say chaps?

FAR NORTH WESTERN ZONE

On Friday night, 10th September, an informal gathering of members and associates was held at the shack of 3GZ. A good muster rolled up including one visitor, 3ABE from Geelong, who met the local lads. The evening consisted mainly of rag-chews between the lads. 3PX is getting nearer to the air every day. 3TI taking his time re-building. 3FC on the air at Ouyen and keeping things alive in that part of the Zone. 3MF will be getting some phone going and will be active on 3.5 and 7 Mc. 3AGF manages to get the odd bit of DX on 14 Mc. and going crook about phone QRM on 7 Mc. 3AUG has commenced construction of 50 Mc. receiver. 3GZ on 7 Mc. with phone but still works bit of DX on 7 and 14 Mc. c.w.

GEELONG AMATEUR RADIO CLUB

Morse classes are still being continued under the instructorship of 3IC. A picture night was given by one of the members who brought along his sound projector and showed two films. "Receiving Radio Messages" and "Electronics."

At the next meeting held by the Club the evening was given over to Father Ryan who brought along a modern wire recorder. Father Ryan recorded the Geelong Hams during one of their Thursday night hook-ups and played this recording back on the recorder. The Hams were able to hear how their own rigs sounded. The President of the Club 3ABE thanked Father Ryan for the interesting evening.

At the following meeting 3BU gave us a lecture on "Antennae I have Used." Bill gave us a practical demonstration of a loop aerial. A portable transmitter was taken around the streets in a car and operated by 3WT under the call sign of 3ABU Portable, and its direction followed by means of the loop antenna at the Club. A visitor to the Club was Harold Selman who is one of the old-time Hams. Harold has renewed his licence and is now on the air under the call of 3CM.

At the next meeting members of the Club congratulated Dick Highway who has been successful in getting his "ticket." The evening was given by 3BW who gave an address on his experiences in "Ham Radio." Archie brought along his RCA88 receiver which caused great interest among the members. Many Hams consider this receiver as one of the world's best.

The Club is becoming very popular and more new members have been accepted into the Club. For those interested the Clubrooms are at 65 Little Malop Street, Geelong.

3BW and 3VF have been having contacts with Melbourne on 144 Mc. 3AJF has his transmitter going now and 3BU has his receiver going on that band also.

QUEENSLAND

The night of the 27th August came and passed and so did the general meeting. Amongst the thirty-six present were President (4AW), Secretary (4XG), 4RT and 4WG. Matters discussed at great length were Library Service and the proposed increase in membership fees. 4RT was in rare form, methinks he visited the blarney stone that night. A pleasing feature of the meeting was the presence of 4WG, whose intelligent questioning was noted in quarters where it counts. Come again OM. Thinking over the meeting, one is reminded of the words of Omar Khayyam:—

"Myself when young did eagerly frequent,
Doctor and Saint, and heard great Argument,
About it and about; but evermore
Came out by the same Door as in I went."

The meeting closed with an informative lecture by 4AW on "Lecher Wires and the Application Thereof."

Certificates were received for the following:—1st VK4 in 14 Mc. 1946, 4TY; 1st VK4 C.W. 1947, 4TY; 1st VK4 phone 1947, 4KS; 1st VK4 28 Mc. C.W. 1947, 4AP; 1st VK 28 Mc. C.W. 1947, 4AP. DX C.C.: 4EL and 4HR; W.A.C.: 4EL, 4WF, 4FJ and 4UX.

4RC reports that out going cards totalled 263 bundles to 80 countries. Morse class is still very popular with twelve regulars including a YL.

Those wishing to avail themselves of the Library Service should forward 5/- to Secretary. This fee will be refunded when member decides to drop service. Fee will be forfeited only if member fails to return books.

Aspirants for DX C.C. honors are 4RF (115), 4DA (111), 4RC has run up 91 countries and 47 W States.

In future no monthly notices of general meeting will be sent out each month. Members whose sub. falls due in the following month will receive a reminder notice in the form of a bill.

BAND ACTIVITY

The very windy weather last month caused so much power line QRM that listening on the 3.5 band was almost unbearable. DX heard included W, ZL, ZK1, VR2 and KP6. VR stations are now allowed to operate in this band. Active on the band are 4HD, 4GG, 4ST, 4HA, 4CU and 4SN. The Blue Riband this month again goes to 4HA who not only added ZK1 to his list but won first place in the VK section in the Eddystone Contest (a ZL contest). Congratulations Harry!

The same remarks on this band as for 3.5 Mc. Very few VK4 stations seem to operate on 7 Mc. at night. 4SV puts out a very strong signal. 4LK also heard with a good signal at night. 4CW also operating. Conditions on this band seem to be improving and southern stations workable during the day. DX heard included W, VE, ZL and KH. QRM from overseas commercial stations in this band has been very bad, which makes one wish for a Californian Kilowatt. Very pleased to have chat with 7PA in the W.I.A. hook-up this month. 7PA reports that membership in VK7 is nearly 100 per cent.—what about it VK4?

Those heard working on 14 Mc. band were 4EC, 4CG, 4GD, 4LZ, 4GZ, 4RT, 4EJ, 4RQ, 4KW, 4PR, 4HB, 4ZU, and 4BJ. Very pleased to hear you on again 4RQ! During a recent Aurora activity South African stations were heard at good strength in the early afternoon. South Americans were good during late afternoon. Europeans provide good hunting during the morning. 4BJ is very pleased this month having bagged an HC2.

The 28 Mc. band has not yet thawed out. ZL, W, and J2 the only countries heard here. Signals occasionally heard at night but day time still the best. Only VK4 heard working on this band was 4HE, but no doubt many others are active.

ZONE NEWS

Far Northern (Manager 4HK).—We believe the following Hams are active in this zone: 4HK, 4AX, 4KL and 4FM. An old-timer in this area has had a change of call sign, 4QA now operating as 4DC. Newcomer to the zone is 4ZI on Thursday Island.

Central Zone (Manager 4HZ).—Very pleased to report that 4UK is at last out of bed. Still confined to the hospital grounds! 4BG is building gear for 50 Mc. 4XJ has all the necessary for W.A.C.

South West Zone (Manager 4ER).—4UX is resting on his laurels this month—Claude promised the XYL to do some gardening. 4TY has returned to the 7 Mc. band using battery power from his country QTH. 4CG and 4LZ still doing their best to keep Toowoomba on the 14 Mc. map. 4ER and 4LD warming up for the 50 Mc. band. 4OK made a welcome return to the 7 Mc. band in a recent 4WI round-up.

Ipswich (Manager 4WS).—Active in the Zone are 4MW, 4CH, 4KO, 4GG, and 4HG. Haven't heard 4WS about lately, when are you coming back to the Sunday morning round-table?

Townsville (Manager 4GD).—Little to report from this zone this month. All the boys getting ready for the first anniversary meeting of the Townsville Club at the end of September.

Brisbane.—During August 4ER and 4SN had the pleasure of visiting 4EL. Eric showed us over the shack and during the course of conversation we learned that Eric's achievements are more outstanding than we realised. Following facts speak for themselves: Countries worked 163; Europeans contacted post-war total 3,000, of which 2,000 were G stations. Certificates already won:—DX C.C. (Australia), B.E.R.T.A., W.B.E. (phone and c.w.), W.B.E. 28 Mc., W.A.C. (phone and c.w.), and another to be added soon is DX CC. (U.S.A.). Eric is also the first post-war VK member of F.O.C.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the usual time and place, and a very representative gathering was noticed. The lecturers for the night were 5DW and 5XU, who together gave a very interesting and instructive demonstration on the recently purchased Institute philoscope and oscilloscope. The demonstration was quite a success, and with Gordon handling the lecture side, and Frank the practical, a good time was had by all. A vote of thanks was ably proposed by Ross Kelly, and the applause which followed clearly indicated that everyone was in agreement with his remarks. Visitors present included Neil Wicks, Leo Rowe, George Digance, J. Newman, 2XM and 3WQ.

3WQ was introduced to the meeting as being connected with Disposals in VK3, and was somewhat dismayed at the roar that went up from the meeting at this announcement. He need not have worried, as they always roar when the word disposals i mentioned, whether it is from rage or in derision I have never been quite sure. Anyway he looks like a regular guy, and cheerfully answered all the queries put up to him, but his answers were very discouraging, simply NO NO. Nevertheless it was good to see him, and we hope he comes over again.

I knew it would happen, when the country Hams were not getting much of a "go" in these notes there was a howl went up, and now that the country boys are satisfied, believe it or not, the city gang are passing caustic remarks concerning the lack of city doings. Wouldn't it. Somebody asked me the other day what they had to do to get into these notes. "Do something wrong I said, and you will soon find yourself in pronto." This makes it very hard on the quiet and unassuming type like 5MF for example, but at last I have caught up with him. I believe that he has made up one of those "sooper dooper" receivers with high gain tubes. It works very well too, until 5MD comes on the air, and then Al can hear Doc from one end of the dial to the other. The only thing you can do Al, is to try and get Doc put behind bars or something.

Hardly any activity from the city is to hand this month, mainly because of "ole man flu" and the fact of poor conditions on all bands at night, which by the way has broken the morale of even the most ardent VK5. Heard a newcomer in 5JZ the other night, and was intrigued by the voice, felt I should know the operator, but for the life of me could not place him. It worried me to such an extent that I made some enquiries and found it was Jack Young, of 5AD fame. Remember him and Jack Burgess of the "Kangaroos on Parade" from that station? Welcome Jack, and they tell me that you possess that priceless possession, an XYL who is not only interested in Amateur Radio, but is also keen to get a ticket as well. (Show this to the wife fellows, but don't mention my name!)

A small but select gang of VK5 Hams indulged in the legpull of the year recently when a certain VK5, high up in financial circles, purchased a well

known type of communication receiver. Being very foxy, he kept the fact quiet, and would listen at night to try the receiver out and then next day he would go around to the above mentioned gang and see what they had heard on their sets. Unfortunately for him, he picked a week when conditions were "putrid" and he hardly heard a VK5 let alone any DX. Each day when he enquired as to what the gang had heard the night before he was given a list of DX that would fairly make his mouth water. He spent a terrible week until he woke up to the fact that the gang were in the know as to his new receiver, and were preparing a special list each day. Had it gone on much longer, I fear that the said Ham would have required a special harness to support his rapidly falling morale.

5WM has been away on relieving duties at Renmark recently. Believe he painted the town a pillar box red, and also tripped the light fantastic to the strains of Lil Grays orchestra. They tell me that you had no trouble with the goats Wick. 'Tis said the goats smelt your pipe first. 5LR manages to hold his own on 28 Mc. with the morning DX. Apparently you don't agree with 2NO regarding "Ten" being on the wane Jack. Don't ask me for my opinion on that band, I have always said it "tiddley winks." A nice piece of sabotage was cooked up by the Editor and our esteemed Secretary in the July issue, and with me at death's door too, there's loyalty for you. Anyway revenge is sweet. I received several letters from critics of these notes this month, and having read them all, I decided to take their advice, but unfortunately or fortunately, whichever way you look at it, the rope broke.

I was talking to an "old-timer" the other day, "old-timer" that is in Amateur Radio, and he told me that he does a lot of listening on the bands as part of his vocation. He said that he had noticed that the Hams who called a station with a short call and then said "are you listening," thereupon breaking their own carrier and listening themselves, were the ones who were the most successful in securing the contacts. To test this theory I listened to quite a number of stations using this method, and must admit that my observations confirmed his remarks. This method of working of course is not new to aeradio operators, but working mostly on fixed channels as they do, it would seem more applicable to their type of contacts. With v.f.o. so popular these days, and the practice of only looking for a reply a few Kc. either side of one's signal, the idea looks a sitter, if only from the needless QRM angle. What about it fellows? Even if you only try it out on VK contacts, after all we must progress, and our present system of calling and calling and calling and then crossing over from sheer exhaustion definitely went out with sword swallowing.

I notice on a locker at my place of working (that horrid word) which is shared by 5LR and 5FQ, the following words, "this locker belongs to the dual conversion boys, 5FQ and 5LR." I don't know what this means, but if you take my advice you'll see a doctor, after all it can't be that serious a complaint. "Don't let this happen to you." A remarkable effect of the "flue" epidemic was the number of Hams who suffered from delirium as one of their symptoms. One Ham who was found up on top of his tower adjusting his beam, when visited by a member of his firm, certainly was in a delirium because his face was as red as red could be. He was an example of a miraculous recovery, because he was back to work next day and as fit as a fiddle. Incidentally, 5LG is beaming again, but believe that this time there is all mod. cons. to prevent him falling off again. Have been told that when Leith climbs up his beam all the neighbours put cotton wool in their ears, as the French that he used when he fell off the beam last time was a credit to any Ham.

5TW is having a break from Amateur Radio on his annual holidays. Tom will probably return with fresh ideas and new gear. Fresh ideas on radio of course! 5CH is now using a SCR247 converted to make a very satisfactory v.f.o. He has also started on the metal work for a rack and panel type transmitter. Hope he doesn't take as long as I have on my v.f.o. Good hunting Claude. 5MS is designing everything for his long hoped for a.c. His battery charger engine is on the ice at present, but the a.c. is now only three poles away so who cares. Keep your pecker up Stewart. 5JA uses a convertor for his a.c. supply and has modified his 807s mods. to the circuit in August "Amateur Radio." John lost a pole in the recent gales, but with the help of 5MS it is back to its vertical position again. At time of writing he is in Melbourne with quite an imposing list of gear to be looked for. 5CJ has almost finshed re-building and should now be going at full speed ahead. Thanks for the good wishes Col, and Wick told me he had contacted you on 7 Mc. There is no central heating in my shack either and I can quite realise your inactivity these cold nights. Of course, some of the common types of Hams I am forced to associate with will say that there is quite enough hot air about me to warm any shack, but I simply treat them with ignore. Thanks for the notes Col.

Understand that there are two starters for the next A.O.C.P. exam from Mt. Gambier way, and we wish them all the best. See you on the air someday fellows. 5LW (Professor to you) keeps a "mice." He feeds it on a bushel of wheat intended for the fowls, who are putting on quite a squawk about it. Ross reckons that the "mice" can call CQ DX now. The reason for the plural "mice" is that these notes are always a month behind, get it? Our "Amigo" 5TR pinched the baby's dummy, no the medicine dropper, to fill something or other connected with a battery charger. Mrs. 5TR was very worried as to whether or not battery acid would mix with medicine. Ralph how could you! With conditions as they are, quite a number of the gang have migrated to 144 Mc., and among those present are 5KG, BH, LQ, LB, CB, AF, RU, GN, GF, VC, CR and 5LG with his high power of one and a quarter watts.

It looks as if 5VM will have to give away the shower that is mounted over his rig, and put it over his next door neighbour's rig. Bert Behenna, who lives next door has gained his "ticket" and their aerials are about 20 feet apart. Perhaps Len could secretly turn on the shower from his QTH and drown out Bert's sig. 5GS had the chance of a look over 5GP's rig in a utility when Graham paid the Northern boys a visit recently. Some f.b. gear at work for the Flying Doctor Service. 5UX had a couple of contacts with 5LX on board the M.V. "Para" while the big blow was on recently. Hope you had a good cruise and caught dozens of them Frank. 5AP has gone and done it, yes that's right, he has taken unto himself a wife. Start her off right Ron, DX always has first preference over dish washing and wiping. Be like me, I have my YF just where she wants me. Congrats from all the gang in VK5. 5CD had the mistfortune to lose a pole during the recent storm. What did you say at the time Cec.

5MA has been busy chasing bugs out of a new modulator. They tell me that "DDT" is as good as any Fred. He hopes to be QRO soon. 5XL is having fun trying to get a Clapp oscillator to perk and at the same time putting phase inverters in his modulator unit, so as he can use a velocity mike soon. 5RJ is still trying to figure out how he can make that 733D tick, but is not having any trouble with his phone anyway, because it sounds f.b. He had a surprise visit from 5MN recently who is QRT again, Jeff said it is easy to give up Ham Radio, he does it about 35 times a year. 5CS still putting in a good sig, but his cobber 5XR is not heard much, better run it remote control Cam. 5AX still chewing the rag on 7 Mc. and keeping his ear on "six," and just in passing 5VM had three days in bed with the flu, but bashed the mike so much whilst convalescing that he had to have another week off wearing a muzzle to get his throat better. 5GS was heard with some very good phone, and we were glad to hear 5JY on the air again, keep it up Jim, but where is 5PH? A victim of the prevailing dogs' disease I have heard. Many thanks for the notes Les, and as you say "the blighters don't print much" do they. You beaut. Put that in your hat Tom Hogan.

WESTERN AUSTRALIA

The general meeting was held on the 13th September. The night was dark and stormy, but 36 members braved the elements so the meeting was quite f.b. as usual. Our Secretary 6AG was back in office. There was a stack of correspondence read and given careful attention. A letter from 6DX in Kalgoorlie suggests an Armistice Day Contest in Western Australia, to be country Hams versus city Hams over a twelve hour operating period. Council will discuss rules, etc., and we will hear more about it later.

From 6MU at Merredin there was a letter reference W.A. Emergency Network. A committee (6FC, 6GA and 6SA) was elected to organise the show, and investigate the existing systems operating in other VK States, and make suggestions to Council as plans for the W.A. set-up.

From 3AFL (formerly 6FL), an aneroid barometer was donated to be a trophy as promised by Frank before he left for VK3. 6WH advised the meeting of other existing trophies and details will be given in a future bulletin.

A fine lecture was given by 6HL as "My Amateur Station." Harry gave the evolution of his gear post-war up to September 13, 1948! Notes on his five element 28 Mc. beam created a lot of interest. Constructional details were given, also timing and adjustments of the new beam which will have proved its worth by the time you read this. Harry held the floor for almost an hour. He convinced us all that 28 Mc. is the only band.

6MB told us all about his new switched 4-band coil unit. Bill gave brief circuit details and we are expecting to hear more of this receiver when he gets it completed. 6AG gave a short demonstration of an auto keying device. Rather a relic but an interesting piece of equipment. The meeting closed at 10.45 p.m.

PERSONALITIES

6RF jumped with joy when he heard an HK4 come back to him on 28 Mc. phone. Fred is now another VK6 to get his W.A.C. 6GA released from hospital just in time to make the R.D. Contest. Bill put up a f.b. score so the rest must have done him good. 6HS and 6JN back on the job again after also spending time in hospital. Harry's new receiver is taking shape slowly. 6DX came to light with a stack of new QSL cards. We hear that the sketch of the rotary beam is soon to become a reality. 6WM, a real c.w. merchant, is at last becoming phone minded. What's this about a new beam Bill? 6FD also of the Goldfields gang, paid a hurried visit to Perth. Joe said something about 100 watts and we are waiting to hear it.

6RL not heard so often on 7 Mc. these days. Ralph has been spending his time and patience on 14 and 28 Mc. His 8 watts is doing a f.b. job on the latter band. 6IG is planning alterations to his rig but unfortunately he is doing it in hospital. Hope you are back home by now Ian and finding your land legs once again. 3OF sends 73 too Ian. 6WD has served his time on 7 Mc. and is now getting the rig ready for some real DX on 14 Mc., f.b. Wally—now what about 28 Mc.? 6CM is doing quite a lot of brass-pounding lately. What's happened to the modulator Bill?

6DD was heard yarning on 7 Mc.! John's excuse —28 Mc. band was dead, but he was keen to get back there again in case it suddenly came good! 6SN has changed his QTH. He is now showing the Carlyle gang just how it should be done; f.b. Alf. 6JW also changed to a better QTH recently. Proudly says he is now satisfied with his junk-pile, but we know John—the game is on again! 6HC has a nice new receiver, a BC348. When he gets that directive antenna hoisted Leo will be seen daily going through the QSL box!

6RT came to Perth during the school holidays. Len just about has his receiver completed. He says 3.5 Mc. is a good band and is the only VK6 regularly on it. 6HL has things going again on 28 Mc. How many countries now Harry? It's close to DX C.C. isn't it? 6WU has deserted 7 Mc. What's happening up there Ray and what's the latest G? 6HR is heard with a nice signal on 7 Mc., f.b. Lou. 6NW is brass-pounding on 14 Mc. again. Norm is getting right into the DX lately, and when things are quiet has time for a rag-chew.

TASMANIA

Well, we missed out on our notes for the September issue of "A.R." due to pressure of business of your worthy (or unworthy scribe) but here goes for the October issue.

Things have been fairly quiet in VK7 for the past month. The September meeting was well attended and after disposing of general business, 7MY exhibited his new receiver complete with blackwood case and all trimmings; boy oh boy, what a set. It has everything that opens and shuts —double conversion and all that, in fact everything that one could possibly want except hot and cold folding doors and running chamber maids.

The VK7 Sunday morning rag-chew doesn't seem as popular as it was, and if the chap in VK7 who heterodyned 7WI one Sunday doesn't play ball I shall have to name the honourable member ahem.

By the way chaps, 7TR can use a key, he has been caught red handed in the operation of same. 7SJ has a fit of downward modulation and 7EJ seems to think that broadcast quality is just the goods, congrats. Ted on your excellent phone. 7NC is busy with a new receiver as is 7RF and 7CT, all double conversion, and everybody offering advice as to the cause of the various bugs contained therein. 7XA is still doing a super job as organiser of the "Food for Britain" Appeal and the letters that Charlie has received from G land are most encouraging and thankful for the local effort.

The awful noise I heard on 7 Mc. a couple of weeks back was a local Ham trying grid modulation, stick to plate brother, stick to plate. 7OL still battling along on phone on 7 Mc., sounds a bit muffled Lyn. 7OM has re-built the rig, and 7CW is to be heard some Sunday mornings on 7 Mc. batting the breeze around the locals. With the rapid approach of summer, field days are once more in the air, and some good days will no doubt

be enjoyed, what with swinging the old loop and stopping kids from falling over cliffs or getting stung by bull-ants, but what the heck anyway.

NORTHERN ZONE

The July meeting of the Northern Zone was held at the studios of 7LA in Launceston. This meeting was the first at which it was possible to have a lecture as at all our previous meetings the formation of the Zone had to be planned. This lecture was given by Mr. T. Gebb, of the Launceston Technical College, and the subject chosen was "Rectifiers." Mr. Gebb briefly covered the more unusual system of rectification and then gave a practical demonstration with the aid of a specially constructed power supply and an oscilloscope. After studying the various patterns on the scope and seeing the effects of different filter circuits, at least two of the audience went home and converted their filters to choke input.

Since the formation of this Zone it is very gratifying to see the old-timers returning to the fold. At the last meeting we even had 7AM along and they tell me that he didn't even flinch when the bug bit him. Les has since been seen carrying huge pieces of aluminium home.

No stations from this Zone were active in the Remembrance Contest, however as the August issue of "Amateur Radio" was not received here until after the Contest this is not surprising.

The DX section have started to take a little more interest in life since my last notes. 7RK became normal first, possibly due to the fact that he managed to drag AC4YN from the clutches of the Ws one evening recently. 7LZ has also managed to find a few new countries to add to his collection. Col is at present using a Jones' all-band single-wire fed antenna. 7DS is also giving this aerial a try-out. 7BQ has now gone v.f.o. and by all reports it is working real well. 7DB is at present building an all-band rack and panel transmitter.

The only visitor to the Zone this month has been VK3ACR.

FIFTY AND UP

(Continued from Page 12)

With the advent of warm weather most of the old 50 Mc. men are looking forward to a recurrence of summer time sporadic E and signs are that there will be a good deal of activity.

On Sunday, 28th August, 4CU went portable on 50 Mc. at a hill some three or four miles from his home QTH (Clifton, Qld.) and succeeded in working 4KK and 4ZU over distances of 45 and 85 miles respectively. 4CU was heard by 4RT and 4ZU by 4SN at Minden about 30 miles west of Brisbane. Conditions were relatively poor however, as compared to previous tests and it was doubtful if the Brisbane-Clifton link would have been possible if both stations were not using four element horizontal beams.

VERY FEW ACTIVE IN VK3

Most consistent station on the band is VNHQ who occupies up to eleven strips of the band. Country blokes are well on the job, 3ZL and 3GM at Ballarat are constantly striving to improve their gear, though conditions have been poor last month or so. 3UI (at Tatura) and a new one, 3TS at Corop about 95 miles North of Melbourne, also come through; sometimes very well, seems that signals go over the mountains. South-East of Melbourne we have 3HZ Warragul, 3DI at Leongatha, and 3CI at Foster, 85 miles; 3CI is in a bad location, but since he has put his beam up to 60 ft. both 3CI and 3HK (near Melbourne) have heard but not worked each other. 3LV can hear Melbourne stations but lack of power supply limits transmitter. 3VL at Red Hill now has his 100 watt rig going and puts out a fine signal.

In Melbourne, the band is kept warm by "old contemptibles" 3HK, 3RR, 3BD, 3XA, 3DA, 3YJ, 3BQ, 3GE, 3PG. New stations include 3MD using his 813 as a doubler to 50 Mc. and feeding a dipole, efficiency is poor but it's a good signal. 3IM at Kew using a three stage crystal and 807 with 12 watts input to beam. Quentin has been listening on 50 Mc. for past two years and has just got ticket; receiver is a 12 tube super. 3CO also came on during the field day; also uses a doubler to 50 Mc. and has a converter. 3QO on also on low power.

Taken as a whole only a handful of stations operate on the band. What's wrong with the 50 Mc. band in VK3? In the last couple of years, ye scribe has quite literally seen scores of stations come—and go—on 50 Mc. Now, no one expects a Ham to stay on one band exclusively (he's nuts if he does), but how about you blokes who have been on 50 Mc. and have the gear, putting in an appearance say once a fortnight?

You chaps who haven't the gear, remember you can get on 50 Mc. on crystal with three stages using say 6V6s and an 807 and run 50 watts easily.

One has only to read, say, American "Tele-Tech" to realise the battle royal in progress over there for high frequency channels. It must come here too and if we Hams don't use our ultra high bands —well someone else will!

WESTERN AUSTRALIA

6FC has just finished building 144 Mc. gear. The transmitter is an a.m./n.b.f.m. affair comprisng 5 stages using 815 in final with up to 50 watts input (straight amplifier). This transmitter took many weeks of "battling" to design and construct. Aerial used is a Lazy H with reflectors fed with clear Nylex via quarter wave matching stub. It is about 34 ft. high and rotable. Receiver is a 3 valve converter, using 6AK5 r.f., to 9001 mixer with 955 oscillator. I.F. is 5 Mc. coupled to 7 stage communications receiver of conventional design. This is an a.m. job, but n.b.f.m. can be received if required. Not going on much until his 50 Mc. beam is re-installed.

Most of the 50 Mc. boys have migrated to 144 Mc. On Sunday, 12th September, 6RU went to Mt. William (70 miles south of Perth) and operated portable (SCR522) back to 6GB and 6LW in Perth. This is the record for Western Australia. 6DF went northwards the same day but poor localities spoiled any chances of contact with 6KW and 6RU, but Maurie was able to work the Perth boys—30 miles away. It was hoped to have had a 100 miles QSO from 6KW, 6RU to 6DF but this did not eventuate.

Every evening 6KW, 6RU, 6AG, 6GB and 6DF keep a listening watch on 144.138 Mc. The fundamental crystal frequency is 8007 Kc. which is a readily available rock in VK. 6DF with an auto timing device transmits m.c.w. for 13 seconds in the minute, leaving 47 seconds listening period each minute.

144 Mc. DIGEST by Bill Hartley

By this time, the VK2 v.h.f. contest of three months' duration will be well under way, commencing at 0001 hours on 1st October until 2359 hours on New Year's Eve for operations on 50, 144 and 288 Mc. bands. The competition provides for points awarded on a mileage basis with special points for any probable Interstate or overseas contacts, normal contacts only on any band and no exchange of numbers, can only contact each station once every 24 hours on each band. Cross-band operation allowed, transmitting station to claim score, also portable operations allowable on all bands. Prizes are provided for each band and a grand prize for the maximum score on all bands. Points score to be multiplied by total points on each band, eg. 100 points on 50 Mc., 100 points on 144 Mc., 100 points on 288 Mc. are all multiplied as total for a three-band score.

This contest is a move in the right direction for providing interest in the exploring of the v.h.f. spectrum. It is to be hoped that such a move could be brought about in VK3 for the running of a similar show—together with some hand-outs from the VK3 Divvy Council! After all it is to the v.h.f. boys, as pioneers, that something in the way of a reward should be provided. Such a gesture would be greatly appreciated and would provide a distinct fill-up to the enthusiasm of the v.h.f. workers.

If such a contest is possible perhaps it would be more to the point if in VK3 that the VIM lads first of all put their phone band in order on 144 Mc. and adopt the means of providing a separate channel for the country boys to call in, for as at present it appears to be a waste of time for the country stations to try and break through the city barrage. It seems quite clear that because a 144 Mc. field day is on, it is a signal for everybody to appear on the band and have a round-up of local contacts, where as on such days there should be silence on the band except for the portables and the contacting medium. It seems odd that conditions be as they are when there are seven nights in a week to chew the rag over, so it is hoped that some moves be brought about and due consideration be given to the establishment of a crystal pool as an aid to a practical working band allocation.

Nineteen stations in VK5 are now on the 288 Mc. band so things are busy with the following calls: 5AF, 5BH, 5CB, 5CR, 5GA, 5GB, 5GF, 5GN, 5JO, 5JM, 5KC, 5KG, 5LB, 5LG, 5LQ, 5NG, 5PW, 5QR and 5RV and at Mt. Gambier with 5JA leading the way is 5MS and 5NV. 5JA put in a brief surprise visit to the writer, he came together with a 144 Mc. walkie-talkie outfit for calibration purposes and was ushered around by 3LR who got bitten by the same strain of bug. Information is that on 144 Mc., there is not a disposal job in use in Adelaide as they are all home-built. 5JM has a 7193 m.o.p.a. into p.p. RL18s, 5RV also uses a m.o.p.a. and a 832 final, yes with a socket, there aplenty in VIA. Strong harmonics from the VK5 28 Mc. boys are heard on the 144 Mc. band.

Like the weather, things are warming up plenty on 144 Mc. in VK3 with the following active: 3ED, EH, EL, EM, ES, MD, MB, XM, BW, VF, CI, LH, TO, LS, HK, JO, EW, AJ, ABA, ACM and AKI, the latter making a welcome re-appearance with good signals. 3EL, before the big blow, had the bad luck to lose his beam, while at last 3EM is considering a rotary beam. 3LR is due on using a pair of 7193s, A.S.V. receiver and a 3 element beam. Final touches to portable gear is being done at 3ACM, AJ, ABA, XM, MB and AKI. Both 3PG and 3KV are the latest to start nibbling at 144 Mc. With the falling of bricks on the roof, 3ES promptly cured the bad a.c. hum or was it Doctor 3AJ. 3EE is on with a super-regen to a 4 element parasitic array plus a mod. osc. Another 522 user will be 3MD which will be a vast improvement on transceiver gear. 3BW's signal from Portarlington is a decided advantage since changing over to horizontal, actually is looked upon as a local.

With the most interesting QSL card yet seen, Keith of 3HK is now a permanent on 144 Mc. and is off to a proper start by using 522 gear, this coupled to 27 feet high dipole with a 50 ohm co-ax feed line. 3OX reports as not being ready to come on for operations until his studies are over. What looks to be the first Interstate contact on 144 Mc. may probably come from the skeds of 3CI-7AB, the latter is another lone star ranger on 144 Mc. His outfit consists of a 300 ohm line feed to a 3 element wide spaced beam with a folded radiator, receiver and a 12 tuber using 6AK5-9002 on the front end with the coils tuned by swinging copper vanes, the transmitter is of interest being a v.f.o. job which feeds at 4 Mc. and ends at 48 Mc. in the final and drives a 35TG tripling to 144 Mc. with 1,000 volts on the 35TG, 807s used for modulation; v.f.o., 6J8G-EF50, oscillator and two class A stages.

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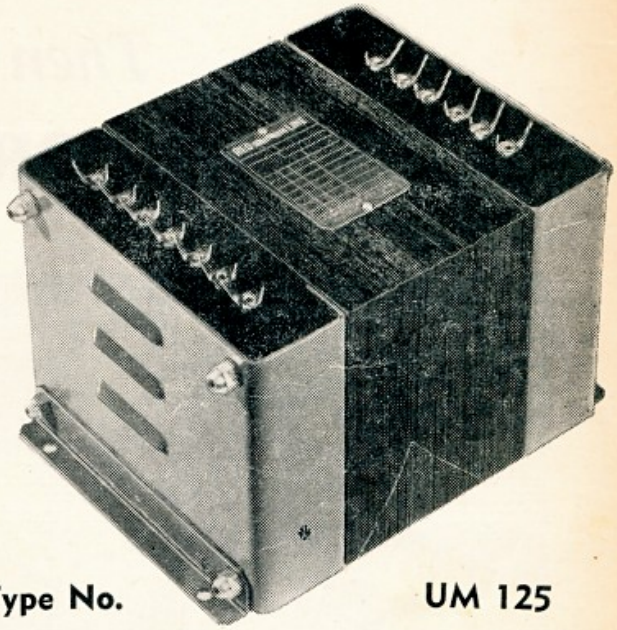

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